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A BRIEF NOTICE OF THE DISEASE POPULARLY TERMED PUERPERAL FEVER. By SAMUEL CUSACK, A. B. M. D. Member of the Royal College of Surgeons in Ireland, and Superintending Accoucheur to the Wellesley Dispensary for Lying-in Females, Mercer Street, Dublin.

The disease popularly denominated puerperal fever, having of late years received much attention, the following remarks would not most probably have ever been submitted to public notice, had not the author of them sought unsuccessfully among the writings already extant on this subject, for a description and elucidation of certain morbid phenomena, which in the *post mortem* examination of several late cases of puerperal fever have presented themselves to his observation.

Under the impression that it is inexcusable to withhold from public attention any fact which may possibly throw light on the pathology and treatment of a disease generally so fatal in its effects, and so little understood in its nature, he subjoins a few remarks fairly deducible from the morbid phenomena on the nature and treatment of this affection.

As the author agrees with many who have already treated this subject, that in all instances there does not exist between puerperal fever and peritoneal inflammation a difference sufficiently evident to allow us to consider the two diseases of a perfectly distinct character, he proposes to make use of the term "puerperal abdominal inflammation," under which, although any inflammation in the abdominal cavity might be classed, at present shall be considered but three forms of disease, each a species of inflammation occupying the situations presently to be defined.

Of the three species, then, of this inflammation, the first is one of decidedly phlogistic character, resembling in every respect the ordinary form of peritonitis arising from wounds or other similar causes; accompanied by fever of a highly inflammatory type. The second is inflammation of a low character, accompanied with great prostration of strength, and with fever of the lowest typhoid nature. The third consists in inflammation of a character intermediate between the two above

mentioned, in some particulars resembling, and in others differing from both.

The causes, as well as the nature and treatment of the first or inflammatory species of this disease, are so well understood, that there is but little new to offer on the subject, and it shall therefore be spoken of only sufficiently to render intelligible the observations to be made on the other forms of inflammation.

1. The first or inflammatory form of puerperal abdominal inflammation is met with among patients of sound constitutions, who have perhaps, previous to parturition, enjoyed unimpaired health; who have not had a labour protracted, or of a description calculated to injure the vital powers; and who for some time subsequent to delivery may be in a state of perfect convalescence. This statement is, however, to be received with some limitation. Individuals have been known to be labouring under fever at the time of accouchement, and who were attacked with peritonitis of the most decidedly inflammatory description.

The exciting causes of this affection are various. Some of the most obvious are, exposure to cold, or the use of food unsuited to the patient's condition, &c. &c.

Amongst the first symptoms are usually rigours, with more or less nausea, soon followed by pain in the abdomen, which may in the first instance be confined to one spot, or from the very commencement may occupy the entire superficial extent of the abdominal region. The urgency of this pain is rapidly and intensely aggravated; the patient does not experience a respite from suffering for even a moment. On examination with the hand, the abdomen is found to be exquisitely tender, more or less generally so in proportion to the extent of the inflammation. This tenderness is sometimes so great, that the mere weight of the hand without pressure is sufficient to produce a considerable augmentation of pain. The pulse is accelerated, and may vary as to frequency and fulness; but it is a most important and characteristic feature in this form of the disease, that while the frequency and fulness of the pulse is subject to variation, its excessive hardness and incompressibility are remarkable and invariably constant. The white tongue, the thirst, and nausea, indicate derangement of the digestive functions. The

bowels are almost always constipated; the lochia usually are suppressed; and the secretion of milk, should it have been established, is arrested. Those circumstances, however, are not to be considered as pathognomonic of this or of any other form of this disease, but merely attributable to that law of the animal economy, existing in every febrile condition of the system, arresting the secretions whether natural or the results of disease. The countenance indicates pain, but does not display that expression of sinking to which we shall presently allude, when speaking of the second or low form of this inflammation. Respiration becomes affected at an early stage of the disease, but is unconnected with any thoracic disease; it is laboured, and this laborious respiration is caused by the mode in which the patient calls into action the intercostal muscles, to escape thereby the pain consequent upon the action of the diaphragm causing pressure on the inflamed peritonæum. This form of respiration is quite different from that which may be observed at a later period, when the disease is verging to a fatal termination, when the structure of the thoracic viscera, and consequently their functions, are (*per se*) morbidly and deeply engaged.

From the preceding remarks it may be inferred, that while there may exist some degree of variety as to the other symptoms, two are constant and uniform in their occurrence, and essential to this form of inflammation. One of these is extreme hardness and incompressibility of the pulse; the other abdominal pain and tenderness.

It may here be observed, although at first view it would not appear by any means probable, that in the affection under consideration it often requires some tact to ascertain whether the abdominal tenderness be real or only apparent.

When we visit a puerperal patient complaining of any ailment, almost the first thing we look for, or the patient herself apprehends, is abdominal inflammation; and some females are so timid, that they absolutely dread when unwell the hand of the physician, and, although pain does not exist, shrink from the touch almost before the hand has had time to reach them. To avoid deception on this point, we should lay our hand on the abdomen in the most gentle manner, then dwell on one particular part, gradually increasing the pressure till we either cause the patient to evince some degree of uneasiness, or till we satisfy ourselves that there does not exist any tenderness whatever. This proceeding should be repeated over every part of the abdomen, and we ought then to return to the part first felt. The least deceitful indication of pain is the expression of the patient's countenance; and when any doubt exists as to the reality of the presence of pain, the best means of avoiding fallacy is to direct the patient's attention to some other object, when, if the pain be not felt, she betrays no uneasiness from pressure; while, on the contrary, should it be really present, her attention is at once

arrested by the aggravation of the pain on the application of the hand.

Should the disease be allowed to proceed unchecked, the pain increases, and the stomach, if this be not already the case, speedily rejects all ingesta. The pulse becomes rapid and changes its character, no longer preserving its hardness, but becoming feeble, perhaps intermittent. The abdomen assumes the usual tympanitic character. In some cases there is a deceitful remission of pain; in others it continues to agonize the patient till the very last moment. In all cases of puerperal abdominal inflammation, the respiration becomes affected as the disease verges to a fatal termination; but this dyspnoea, shortly antecedent to death, originates from causes different from those by which the respiration is affected in the early, inflammatory stage of the disease. It now becomes very much oppressed, so that it is distressed and laboured; or it is attended with a violently acute pain in either side, so that the patient respire like a person labouring under acute pleurisy. This pain is often so urgent that the patient forgets that any thing else has been the matter, and thinks that, were it not for this pain, all would be well.

When the disease is about to terminate fatally, the patient is harassed with incessant vomiting. This affection is, however, of a different character, and from a cause different from that which produces vomiting in another stage of the disease; now it is a mere regurgitation of the contents of the stomach caused by the unassisted action of the viscus.

The morbid appearances found on dissection are chiefly, but not exclusively, seated in the abdomen. On laying open that cavity, a considerable quantity of inodorous gas usually escapes. The most remarkable feature is the large quantity of serum effused. This fluid is of a wheyish colour, mixed with an immense quantity of lymph, either diffused through it in small flakes, or in large soft masses. The quantity is enormous, amounting sometimes to quarts. The intestines are coated with a thick layer of lymph, by which they are often agglutinated together, so as to form cavities containing this mixture of lymph and serum, or a fluid of a sero-purulent nature. Those appearances are usually more remarkable in the vicinity of the uterus than elsewhere; they are not, however, confined to any one part of the abdomen, even the peritonæal investment of the liver and diaphragm being often found coated with lymph.

It has been stated that when the disease was about to terminate fatally, the functions of respiration became engaged. The morbid appearances occurring in the thoracic cavity are effusion into the cellular tissue of the lungs, and into the bronchial tubes, together with a serous effusion into the cavity of the pleura. Sometimes traces of more actively acute inflammation are visible, the *pleura costalis* or *pulmonalis* being found coated with a thick layer of coagulable lymph.

2. The second or low form of puerperal ab-

dominal inflammation, the true nature of which appears to have been hitherto but little understood, differs remarkably from that just described, being of a low typhoid character. The patients among whom this form of the disease chiefly occurs are usually quite differently circumstanced from those who are the subjects of the first species of this inflammation. It is much more prevalent at one season of the year than another, being sometimes quite epidemic. The seasons which appear to favour its occurrence are such as give rise to typhus fever, to erysipelas, and to diseases of a low type; yet it still has been extremely prevalent at a time when the fever hospitals were almost empty.

The vitiated air of crowded hospitals must certainly more or less predispose to this affection. I believe, however, that the influence of this cause has been overrated, and that, if the same number of patients of a similar class were attended at their respective habitations, there would not be found so wide a difference as is generally supposed to exist in the proportion of persons attacked by this form of inflammation.

But by far the most powerfully predisposing causes are derangements of health, and impaired and broken down states of the constitution previous to delivery. A large proportion of persons labouring under this affection are known to inhabit badly ventilated rooms, and to live on innutritious kinds of food. Of this, patients labouring under typhus fever at the time of their accouchement, and individuals who have suffered much from hemorrhage antecedent to or during parturition,* or who have had protracted or harassing labours, are often the subjects. Extreme mental anxiety or distress most powerfully predisposes to this affection. Thus, some of the females who have been the subjects of this low form of disease are known to have been the victims of seduction, and consequently under the depressing influence of mental suffering and despondency attendant on their wretched situation.

The form of disease under consideration differs from the first described species of inflammation, not only in its causes but also in its symptoms.

Pain, which in the acutely inflammatory

* In cases of immoderate uterine action, venesection is often resorted to as a means to prevent inflammation and to subdue spasm. The author, however, thinks venesection justifiable in the former case alone, and in it only when the patient is of a plethoric strong habit. He has so frequently seen bad consequences result from the abstraction of large quantities of blood, that he is inclined to use means calculated to produce a temporary depression only of the animal powers, as tartar emetic, &c. when, from the excessive vascular action, we should, in the first instance, dread the employment of opiates.

species is one of the essential and best marked symptoms, is not necessarily present, being often in the most fatal instances totally absent for some time, and found to exist at the commencement only of the disease, or should the disease be of long duration, only towards its termination. When the patient is interrogated as to her sensations, she does not appear to be so totally absorbed by pain as to be regardless of any other sensation; but, on the contrary, has something else to complain of, such as weakness or debility, local or general; and frequently it is only by means of a very careful examination, and by making pressure with very considerable force, that any abdominal tenderness can be detected.

The character of the pulse is quite different from that in the first species of this inflammation, in which hardness and incompressibility are always to be considered as accurately pathognomonic of this disease. In the second or low form, the reverse is the case, the pulse being always characterized by excessive weakness and compressibility, the slightest pressure of the finger on the artery being sufficient to prevent the pulsation being felt at all; and so remarkably is this the case, that one of the most certain indications of the patient's improvement is the accession of some degree of strength to the pulse, along with an increase of resistance on pressure.

The patient usually complains of extreme weakness and exhaustion, as well as of want of rest, and occasionally, in the most urgent manner, begs for nutriment of some description.

The expression of suffering in the countenance is characteristic, but differs from that observable in the first species of the inflammation, being indicative of exhaustion and anxiety rather than pain.

The state of the bowels is not uniform. Constipation does not exist to the same extent, nor require the same powerful medicines for its removal, as in the first species of this disease; yet, at the same time, the bowels are more or less loaded, and the hepatic and intestinal secretions are considerably deranged. The tongue sometimes is white, at other times its colour is natural. Occasionally it is of a bluish whiteness, as of cream spread over a dark ground,—a condition of the tongue, with very few exceptions, peculiar to the disease; or it may be of an inky blackness. In such cases the tongue is not at all coated or loaded, but the colour appears to be seated in the papillæ of the tongue; and it is a remarkable fact, that when the disease manifests any signs of amendment, the tongue becomes coated with a thick brown crust, like that observable in common fever.

The temperature of the body is not increased; on the contrary, it is usually below the natural standard, and there are irregular rigours in the progress of the disease. Towards the fatal termination of the disease, the skin sometimes, but not invariably, is covered in various parts with large livid spots.

This form of the disease is extremely rapid

in its progress. There is, however, but little variety in its symptoms; as in the inflammatory form, so too in this, there is a regurgitation of the contents of the stomach by the unassisted efforts of that viscus.

The temperature of the body gradually diminishes, and the patient at last sinks exhausted.

The pathology of this form of inflammation is quite characteristic, being of a nature totally different from that of the foregoing species. In this the copious effusions of lymph, which present themselves in the other species, are not to be met. The effusion into the peritoneal cavity is moderate in quantity, amounting sometimes not even to a pint. Its nature is peculiar, being sometimes of a dark aqueous appearance, perfectly free from any traces of lymph, presenting somewhat the appearance of stale beer; sometimes it is of an oily purulent appearance; but the peculiar and remarkable seat of disease which has been observed in some of the best marked cases of this low form of inflammation, is the subserous and the pelvic cellular tissue.

Two kinds of effusion are met with in the cells of those tissues, one a reddish serum, occasionally so copious as to pervade not only the cellular tissue about the uterus, the pelvic cavity, and the iliac regions, but even sometimes to distend the cells of the delicate cellular tissue, which connect together the two layers of the mesentery. The other species of effusion is not of so fluid a nature, resembling jelly in appearance and consistence. This also occupies the cellular tissue, and is most conspicuous where the looseness of the peritonæum admits of freer effusion. Thus the lax nature of the cellular tissue connecting the layers of the peritonæum which form the broad ligaments of the uterus, admits of its being poured out in considerable quantities in that situation.

The uterus frequently is softened and flabby; that diseased state just described extending to its interstitial cellular structure. Darkly coloured softened patches are often observable in different parts of both small and large intestines. The ovaries in some instances undergo a remarkable change, becoming much enlarged and quite altered in appearance, and converted into a soft mass of the consistence of coagulated blood, so that those bodies seem to undergo a process resembling the *ramollissement* of other parts. This softening takes place to such a degree that it is almost impossible to take them in the hand without destroying their texture; and this softening is not the only morbid appearance in the ovaries, as they are often much enlarged, equalling the size of a large apple.

The thorax also is the seat of effusion in this as well as in the preceding forms of this inflammation; but there is not ever found that coating of lymph, (on its pleura,) or effusion of the same nature into its cavity, which is to be met with in the first form of the disease.

Should blood have been taken from the patient labouring under this affection, it does not exhibit the buffy coat, but forms a soft coagulum broken up by the slightest violence.

3. The third form of inflammation is believed to be the most frequent of all. At the same time it is admitted that there may be certain seasons when the first or inflammatory species is at least as prevalent. Although, however, this form of the inflammation is believed to be so common, I shall not dwell on its symptoms and pathology, since it does not possess the same peculiarity of symptoms. But since it presents certain symptoms in common with the other two forms of the disease, its true character shall be explained, by considering in what particulars it resembles, and in what it differs from the other forms of the inflammation, rather than by any formal delineation of its own peculiar symptoms.

This form of the disease resembles the first in being characterized by the violent abdominal pain and by tenderness on pressure, a symptom never absent, and which may be considered as the essential one of this form of the inflammation. It resembles the inflammatory form of the disease also in the increased temperature of the body, and by the absence of that sensation of weakness and collapse which ever accompanies the second or typhoid form. It differs from each form in the character of the pulse, which neither possesses the hardness and incompressibility peculiar to that of the first, nor sinks into the weakness and compressibility of that of the second. The condition of the tongue and of the digestive system is the same as in the inflammatory species.

The individuals who are the subjects of this affection have in general been weakened more or less, but have not by any means been in that impaired and debilitated condition of health by which the low form of the disease most generally is induced. Thus it not unfrequently happens that individuals who previously enjoyed good health, but have suffered from hemorrhage during delivery, are the subjects of this species of the disease.

The pathology of this form, like its symptoms, is not characteristic. It resembles, apparently at least, that of the inflammatory species so much, that in general, without a knowledge of the previous history of the case, we should be at a loss, from the mere pathologic evidence, to determine to what species of the inflammation it is to be referred, there being usually found the same copious effusion of serum and lymph.

In more than one instance, however, a combination of the morbid phenomena, occurring in the two first described forms of the disease, has been observed; the cellular effusion existing in a slight degree only, and generally about the front of the uterus and bladder, while the ordinary effusion of lymph and serum occurs in the general peritoneal cavity.

Before pointing out what is conceived to be the rational mode of treating the different forms of this disease, it must be premised,

that, from the intermediate place which many cases hold, it is often with considerable diffidence that we determine on the plan of treatment to be adopted. Moreover, although the mortality of the disease under consideration will, it is thought, be considerably diminished by the adoption of the rules for its treatment now to be laid down, still it is to be considered as a disease not by any means obedient to medical treatment.

The consideration of the treatment of the inflammatory form of the disease might perhaps be dismissed by briefly stating that the antiphlogistic regimen should be adopted in its fullest extent; or, in other words, that the treatment employed by almost every practitioner for the relief of the ordinary form of *peritonitis* is to be pursued. As the peculiar condition of puerperal females, however, demands some modification of treatment, we shall briefly consider each of the remedies usually employed in such cases.

Venesection in the disease under consideration deservedly ranks as a most efficient and valuable remedy. The warmest advocates for the use of the lancet, however, admit that its value depends in a great measure on the manner in which it is put into execution; and to render it effectual, the principle usually observed is to perform the operation in such a manner as to produce, with the loss of a moderate quantity of blood, an immediate and decided effect. For the fulfilment of this object it is usual to make a large orifice, and to allow the blood to flow from the patient while in an erect posture.

Now, although there are few cases in which an unnecessary expenditure of blood is more to be deprecated than amongst puerperal females, still the practice of making the patient sit upright during the abstraction of blood, found so advantageous in many other diseases, is calculated in this to lead us into mistakes of a very mischievous tendency; for the mere act of sitting up, abstracted from the effects of loss of blood, is often sufficient to produce syncope, which, when it occurs prematurely, does not in the least mitigate the sufferings of the patient, and in all probability deters us from the farther abstraction of blood in cases where its adoption may be of vital importance.

The predisposing cause of this tendency to syncope among females lately delivered, appears to originate in the increased influence which gravity has on the circulation about the abdomen and upper part of the body, in consequence of the relaxed state of the abdominal parietes, and of the removal of the large uterine tumour which heretofore exerted such considerable pressure on the trunks of the abdominal vessels; and the tendency to syncope is further increased by the patient's having been, at the period when they are usually attacked with this affection, for some days in the recumbent posture.

Hence the practice which we would adopt is that of opening the vein by making a large orifice while the patient is in the recumbent

posture; if she is strong and plethoric, continuing to abstract blood without altering her position till, either from the occurrence of syncope, or of some other circumstance, we have reason to suppose that a decided effect has been produced. If, on the other hand, we be apprehensive of the patient's bearing the loss of blood badly, as soon as the quantity deemed sufficient is abstracted, we direct a change of position from the horizontal to the upright, and thus induce syncope without the chance of deception from the circumstances to which we have alluded. The selection of the time suitable for performing venesection is of paramount importance; the sooner, after the occurrence of the usual inflammatory stage of reaction, this remedy is resorted to, the more decidedly beneficial will be its effects. In the repetition of venesection, as well as in its adoption, when it has not been performed at that period which is considered to be the most expedient, we are to be guided by the state of the pulse and of the abdominal pain. Venesection is to be repeated, or, should it not have been previously employed, to be adopted whenever abdominal pain exists, accompanied with the hardness and incompressibility of the pulse, which have been already remarked. Should the pulse, however, lose the character peculiar to the early inflammatory stage of the disease, and assume that weak faltering state, into which it ever sinks when the disease verges to a fatal termination, the employment of the lancet then will have but the effect of accelerating the patient's dissolution.

The application of leeches will be found to be most efficacious, subsequently to venesection; although, however, their employment should rarely be dispensed with, we should never rest satisfied with their sole application. It is almost superfluous to observe, that fomentations properly managed will add materially to the benefit to be derived from the application of leeches. The most decided benefit will often result from the employment of blisters. They should be large enough to cover the entire abdomen, and ought only to be employed after general and local depletion.

In most cases of this form of inflammation, we find that the patient's bowels have been for some time constipated; and not unfrequently that the origin of the disease may be traced to neglected constipation. It is evident that this state should be removed as speedily as possible; and unless the irritability of the stomach deter us, active purgative medicine should be administered. For this purpose we may select a bolus consisting of ten grains of jalap, five of calomel, with the addition of three or four grains of scammony, and as many of aromatic powder; this to be followed in two or three hours' time by a mixture of the infusion and tincture of senna, with sulphate of magnesia, a wine glassful of which may be taken for a dose, and repeated every second hour, till the bowels have been sufficiently acted upon.

Should the stomach be irritable, it will be more prudent to exhibit medicine in some form which will be less likely to excite nausea. Two or three pills of equal parts of cathartic extract and calomel, made into a mass with some of the essential oils, may be taken every second hour, and their action promoted by the exhibition of Rochelle salts, given in an effervescing state, with the bicarbonate of soda and lemon juice. In conjunction with purgatives given by the mouth, *enemata*, which are active, but not stimulating, should be administered. The enema of the Dublin pharmacopœia, made more active by the addition of an ounce of the muriate of soda, will be found to answer the intended purpose.

Having, in the first instance, freely evacuated the bowels, we deem it imprudent to persevere in the continuance of the active purgatives first exhibited; but in the progress of the complaint it is better to keep the bowels gently open by the employment of *enemata*, and by mild purgatives, as castor oil, given in some agreeable vehicle, or the sulphate of magnesia in solution in the infusion of roses. For this practice the reason is, that the disturbance of the inflamed parts, necessarily consequent upon the operation of purgatives, powerfully tends to prevent resolution; and also that it is questionable whether the seat of inflammation be not too near the mucous membrane of the intestines to admit of what in more distantly seated inflammation may be safely practised,—the lowering of the system by the increase of the mucous secretion.

The next object of importance is to bring the patient under the influence of mercury as rapidly as possible. This is to be best effected by the exhibition of calomel, which may be given in doses of from three to five grains every second hour. It happens occasionally that the calomel produces tenesmus and irritability of the bowels; but these unpleasant effects may always be removed by the administration of a few drops of tincture of opium, in combination with cinnamon water and syrup of ginger, or by the addition of the eighth or of a quarter of a grain of opium to each dose of the calomel.

Little need be said on the employment of nauseating medicines or of diaphoretics; for although in many instances they may be found useful as auxiliaries, yet they should not in any case of this species of inflammation supersede the use of the means which have just been described.

The general management of the patient ought to be conducted on the principles held in view in the treatment of all inflammatory diseases. The patient's diet should be of the most antiphlogistic description, that is, as long as the symptomatic fever preserves its original inflammatory character. Should it, however, assume at any time the low type of fever which accompanies the second species of inflammation,—a circumstance not unfrequently found to take place, it will be necessary to substitute the dietetic plan of treatment which

presently shall be described as applicable to the second form of the disease.

In the second, or typhoid species of puerperal abdominal inflammation, a mode of treatment diametrically opposite to that which has now been described is to be adopted;—the depleting system, which in the first species of the disease is so decidedly called for, being here totally inadmissible.

The employment of the lancet at any stage, or even of leeches, in most cases, only accelerates the fatal termination of the disease. To form a rule of treatment, it becomes necessary to consider what the character of the disease is. It consists in local inflammation of a low unhealthy character, accompanied by constitutional fever of a corresponding nature. The local and constitutional affections, if unchecked, react on each other, so as to render the circumstances of the case progressively worse. The means usually employed for subduing inflammation, if applied here, would not only be inefficacious, but absolutely injurious, depleting measures having the effect of increasing the debility and exhaustion already present.

It is therefore only by removing the causes which tend to keep up this state of the system, and through the medium of the constitution generally, by imparting to the seat of disease a degree of tone and healthy action, that the local inflammation may be expected to assume such a character as may admit of favourable termination by resolution.

Should the patient, therefore, occupy an unhealthy, ill-ventilated residence, her immediate removal should be, if possible, effected; but if this is impracticable, measures should be taken to allow a free ingress of uncontaminated air. When removal is practicable, it should never be neglected. It may always be effected without inconvenience, by placing her in a bed of such a description as will admit of being moved from one place to another. With a similar view, indeed, the propriety of adopting, during the warm seasons of the year at least, the use of tents, may be suggested to the managers of lying-in hospitals. This expedient would obviate the necessity of crowding an hospital, and, should an epidemic prevail, would afford an opportunity for taking the necessary measures of ventilation, painting, &c. Although the use of tents has not yet, at least so far as the author knows, been adopted anywhere for patients labouring under the disease in question, yet the great benefit which attended the employment of tents when the ordinary form of fever was prevalent in this city, speaks strongly in favour of such a measure. At the time alluded to several individuals who were the subjects of fever while pregnant, were delivered in those tents, and, notwithstanding, had a favourable recovery.

The next circumstance to be held in recollection is, that, in addition to the generally deranged state of the patient's constitution, the digestive functions are more particularly affected. The bowels usually are torpid, and

although there be not absolute constipation, still the intestinal canal is loaded, its secretions are deranged, and the hepatic function more or less impaired. As those symptoms tend to maintain the derangement of the general system, they should at once be obviated. To effect this, we suggest the immediate exhibition of from five to ten grains of calomel, followed in the course of two or three hours by some cathartic medicine. The selection of the cathartic to be employed is not, in this form of disease, by any means a matter of indifference.

Any medicine which, by drastic properties, has the effect of debilitating the system, is highly injurious. A medicine, therefore, is to be selected, which, while it unloads the intestinal canal, will impart a healthy action to its mucous coat, and will have the effect rather of exciting than of depressing the general system. It is unnecessary in this place to dwell upon the sympathy which exists between the general system and the intestinal canal, as intestinal derangement is well known to interfere in a most material degree with the performance of the various functions of the animal economy. Holding, therefore, in view the objects now stated in the choice of a purgative, we select the spirits of turpentine, which may be exhibited in draughts composed of about six drachms of the spirits, the same quantity of cinnamon water, and a drachm of syrup of ginger. These draughts should be repeated every second hour, till the bowels are sufficiently evacuated.

The property of unloading the intestinal canal, and at the same time of acting as a general stimulant, are, it is thought, the circumstances to which turpentine is indebted for its value as a remedy in some cases of puerperal inflammation. Whilst, however, it may fairly be considered a most valuable remedy in the low form of the disease, it appears questionable whether its exhibition may with propriety be resorted to in the first or phlogistic species.

It will be found that in almost every instance of this (the typhoid) species of the inflammation, although the patient may suffer but little from pain, still she passes a considerable time without sleep; and this want of rest materially aggravates her already debilitated condition. Having, therefore, resorted to the means already specified for improving the state of the alimentary canal, we should next exhibit anodyne medicines. Two grains of opium may be given, either alone or combined, when much debility is present, with camphor or ammonia in the form of a bolus, or draughts may be directed, composed of twenty drops of tincture of opium, ten drachms of camphor mixture, and a drachm of the aromatic spirit of ammonia; to be taken every second hour till rest is procured.

Still holding in view the objects already stated of imparting a degree of healthy action to the system, we pay attention to what may be partly considered the dietetic management of the patient. A liberal quantity of wine

may be allowed, to be taken diluted, and flavoured with cinnamon, or some agreeable aromatic; or a couple of table-spoonfuls may be taken occasionally in a small cupful of whey or of arrow-root. Chicken broth properly prepared will be found an extremely useful article; and in small quantities it may form a part of the patient's ordinary drink. From personal experience, the author cannot speak of the effects of the sulphate of quinine; but from its great efficacy in other diseases of a character not very dissimilar from that under consideration, it is thought that its exhibition in this disease might be attended with considerable advantage.

The direct means of subduing this (the low) species of the inflammation are limited, being confined to blisters and mercurials, remedies of considerable value, and which ought not in any instance to be omitted. As soon, therefore, as possible the abdomen should be completely covered with a blister, which ought not to be removed till its specific effect has been produced. It is necessary, however, to bear in mind that some individuals suffer considerably from the irritative effects which a blister occasionally produces. Such an occurrence would be extremely unfavourable in a case of the disease under consideration. Its approach should be carefully guarded against, and, if its occurrence was to be anticipated, the blister should instantly be removed.

The calomel is to be administered with the view of affecting the patient's system in the manner which we have recommended when speaking of the first species of the inflammation; and should it act too powerfully on the bowels,—a circumstance which must tend to debilitate the patient,—the opium of which we have already spoken of as so useful may be given in combination therewith.

Throughout the progress of this species of abdominal inflammation, even in those cases which ultimately terminate favourably, a renewal of the symptoms of exhaustion and watchfulness will often occur, so as to demand a repetition of the exhibition of the anodyne and stimulating remedies.

We have already stated, that, when a case of this kind proceeds favourably, it is to be expected that the accompanying fever will assume a less typhoid character. When this favourable circumstance occurs, stimulants must be used with a more sparing hand, and such substitutes made use of as strengthen without exciting the constitution.

In the treatment of the third species of the inflammation, what has been said regarding the two foregoing species will render minuteness of detail unnecessary. In this form of the inflammation, while general blood-letting is to be considered inadmissible, topical may often be employed with considerable advantage. From two to three dozen of leeches should in every case be applied to the abdomen, and the bleeding promoted by the usual means. The application of the leeches may be repeated, unless the patient should appear

to be weakened by the bleeding ensuing upon their first application;—should this be the case, a blister may be applied. The bowels should be freely evacuated by means of turpentine preceded by calomel, in the manner already mentioned in the management of the typhoid species of the disease; and the mercurial treatment is to be adopted as in both forms of the disease. The dietetic treatment is to be that used in the first species of the inflammation, in being of the most decidedly antiphlogistic description.

The principles upon which it is thought that the different forms of puerperal abdominal inflammation may be most advantageously treated being now laid down, it is deemed necessary to repeat, that but few cases of this disease preserve throughout their entire course an undeviating uniformity of character, so that it would not by any means be a scientific or successful mode of treatment to follow without deviation the line of treatment at first entered upon. Our remedies, on the contrary, should always be adapted to the exigencies of the case; and although we commence the treatment of a case under the firm conviction of its requiring the management suited to one particular form of the disease, we should not be the less ready, on its assuming another type, to substitute that kind of treatment applicable to a species altogether opposite.

Having in the preceding part of this paper considered to a certain extent the symptoms, treatment, and pathology of the three different species of what has been termed puerperal abdominal inflammation, some farther observations shall now be made on the nature of the low form of this inflammation; for although this form of the disease, is, so far as the author's experience extends, of less frequent occurrence than either of the other two species, yet a knowledge of its pathology is thought to be of considerable importance, as calculated to elucidate the nature as well as the treatment of the other species of the inflammation.

To view the low form of puerperal abdominal inflammation, or, as it has been termed, puerperal fever, in its true light, it seems proper to consider it as a disease whose essential character consists in local inflammation of a peculiar nature, accompanied by fever of the lowest typhoid description; as a disease not by any means exclusively confined to puerperal subjects, yet modified by the puerperal state, but on the contrary it may occur (and frequently does occur) in individuals of either sex, produced by the effects of bruises, wounds, surgical operations, &c. Nay, it frequently may arise idiopathically, or at least from a cause not by any means manifest. I must further observe, that this disease, if not the same, is at least a modification of that known by the term "Diffuse Cellular Inflammation;" and although in some of the fatal cases of this disorder the cellular membrane is the seat of disease, yet this last mentioned circumstance is not necessarily or uni-

versally the case; and inflammation of a character similar to that which has its seat in the cellular membrane may attack the peritonæum, the uterus, the ovaries, or other parts. It may farther be argued, that inflammation of the character we are considering is not, when it attacks puerperal women, confined exclusively to the abdominal region, but may, and not unfrequently does, affect the cellular structures of the lower extremities, and thus produce a fatal disease, by some considered *phlegmasia dolens*. Lastly, the predisposing and exciting causes of the low form of puerperal abdominal inflammation, although apparently different, are of a precisely similar nature to those which induce "diffuse cellular inflammation;" to which disease, as has already been observed, the typhoid form of puerperal abdominal inflammation bears a close similarity. In short, little reasoning is necessary to explain the true nature of this disease to any one who watches attentively the progress of a case of it till its fatal termination, and who subsequently investigates accurately its morbid phenomena.

The local and constitutional symptoms, the predisposing causes of the disease, the kind of patients among whom it occurs, and its analogy with other diseases, seem at once to stamp its true character. The seat of the morbid phenomena may be in the pelvic or in the subserous cellular tissue, or in the ovaries, or, as most commonly is the case, in the peritonæum, or it may present itself in all these structures at the same time. The effects of this process have already been described; and the importance of those cases in which the serous or gelatinous effusion occurs has been already evinced in throwing light on the pathological appearances, when confined exclusively to the peritonæum. These appearances shall now, therefore, be contrasted with those which are the effects of healthy or phlegmonous inflammation in the same parts; and first of the cellular structure.

Healthy or phlegmonous inflammation occurring in cellular structure is characterized by its tendency to become circumscribed by the effusion of coagulable lymph. Here there is quite a different state of things; the fluids poured out in consequence of the inflammation are diffused throughout the entire structure, there not being any provision established by nature for setting bounds to this species of inflammation. Similarly in serous structures healthy inflammations are found to cause adhesions, as may frequently be seen exemplified in the *pleura*, *tunica vaginalis*, &c.; or should the inflammation not be circumscribed, large effusions of coagulable lymph and of serum take place; and these effusions we observe to occur even in the second form of abdominal inflammation, which form is not considered to be a disease of a purely inflammatory character. In the form of the disease now under consideration (that species in which occur the serous or gelatinous effusions) the effusion of lymph is altogether absent, or if occurring at all, is found in a very small

proportion, the peritonæal effusion being either serous or of a sero-purulent nature. With respect to the ovaries, it has been thought* that the effect of inflammation would be to render these organs more firm and dense, and, if carried to any great extent, to produce suppuration; but here there is no appearance of suppuration, and, instead of hardening, there is complete ramolissement of their structure.

As to the accompanying fever, the great prostration of strength, the weakness of the pulse, and lowness of the temperature of the body, must at once convince any one at all conversant with fever of its low typhoid character.

It has already been stated that the disease under consideration is found to attack individuals whose health has been impaired previous to delivery, or those who had suffered from profuse hemorrhage, harassing tedious labours, &c. Persons of almost any experience are aware that amongst the patients who have suffered from those or similar causes, we very seldom meet with any attacked either by fever or inflammation of a healthy inflammatory character. It is well known that almost all the cases of inflammation which have occurred in this country from wounds inflicted in dissections or from some other similar causes, have been of a low unhealthy character.

The similarity of the two diseases may further be inferred from the fact,—that the disease under consideration is not peculiar to, although modified by the puerperal state; but, on the contrary, the inflammation which I represent to be seated in the cellular membrane, in the ovaries, or in the peritonæum, is of a character similar to that of an inflammation which may attack indiscriminately patients of either sex. To prove this to be the case, the reader is requested to contrast the appearances met with in case p. 277, with those described by Dr. Duncan. In the case alluded to “the entire subserous tissue was filled with reddish serum.” Dr. Duncan records as the most remarkable appearance of a well marked case of inflammation “the cellular tissue being tinged with a bloody serum.” He farther says, “where the inflammation, in consequence of spreading, affects the cellular tissue which forms the attached surface of a serous membrane, the serous membrane becomes affected, and then the disease spreads rapidly and independently in this membrane, producing all the phenomena of inflammation of a serous membrane.” From this description, and from some dissections related by the same author, wherein the cellular membrane of the thorax and of the pleura had been the seat of this disease, there appears not to be any doubt of the similarity of the two diseases.

Here, however, I may remark, that, although it is not by any means my opinion that

in the cases which have come within my observation, in which effusions into the cellular membrane and into the peritonæal cavity were co-existent, the inflammation of the peritonæum giving rise to that effusion is the necessary consequence of its proximity to the diseased cellular tissue, (although this in some instances might be the case;) for in those cases there was a similar state of the pleura, in the vicinity of which no cellular effusion existed; and a precisely similar appearance of the peritonæum is to be met with where cellular effusion is totally absent. In such cases the inflammation of the peritonæum is believed to be of a peculiarly low character, and not of the same description as the usual inflammatory affections of serous membranes; and from the similarity of the effusions into the cavity of the peritonæum in cases where the cellular effusion is present, and in those where it is absent, it may be inferred that the effusion in both instances into the cavity of the peritonæum is of a homogeneous nature. Besides, in our surgical hospitals not unfrequently we meet with patients, who, after undergoing operations for stone, *fistula in ano*, hemorrhoids, &c. fall victims to an affection so similar in its character to that of the disease just described, that any person who has observed accurately the phenomena of the two must at once be impressed with their striking similarity. In both instances we find the patients to be persons of broken down constitutions, or to have been for some time previously labouring under ill health. This affection often is much more prevalent at one season of the year than at another, when patients operated on under different circumstances as to season and health recover without any unfavourable symptom, or are merely affected with the common healthy peritonæal inflammation. The appearances observed on dissection in the child of Clock, who had died of this disease, would tend to limit the views which the author has ventured to take of this subject. In that instance it was almost impossible to trace any differences between the *post mortem* appearances of the child and those of the mother; and although, from the age of the child, it was impossible to form any opinion as to the nature of its disease, yet the morbid phenomena would, it is presumed, warrant the conclusion that the affection of which it died was of a nature similar to that of the disease under present consideration; and this conclusion is still farther strengthened, when it is remembered that the process of ulceration and sloughing of the umbilicus was going on in a child, who, from the want of breast milk, was necessarily placed in a condition similar to that which in an adult so powerfully predisposes to this affection.

Dr. Hull, in his work on *Phlegmasia Dolens*, has taken considerable pains to trace an analogy between that disease and puerperal fever; and Dr. Duncan seems to consider *phlegmasia dolens* and diffuse cellular inflammation as similar affections. To me, however, it appears that *phlegmasia dolens* differs from

* See Baillie's Morbid Anatomy.
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both, but that there is a disease with which the lower extremities of puerperal females is attacked, a case of which is instanced by the latter author, as described by Professor Caspar. This disease is of a character similar to that of the disease which has been under our consideration, which was seated in the pelvic or abdominal cellular tissue.

The predisposing causes of this affection have been dwelt on at a considerable length. Their similarity to those of the unhealthy species of inflammations, by the operation of which causes the animal system is incapacitated from being the subject of a healthy inflammatory action, has, it is hoped, been sufficiently clearly demonstrated. Any farther parallel between them shall therefore for the present be forborne. It might at first sight be supposed that their exciting causes were of dissimilar natures, the diffuse or unhealthy inflammation being in general the consequence of a wound or injury; but this is not necessarily the case; for this species of inflammation may arise from numerous other causes, and sometimes occurs idiopathically, or at least without any apparent cause; and the slightest abrasion,—an occurrence not very unlikely to take place in the process of delivery,—is at least as likely to produce that affection as the most extensive wound. Besides, we know that it is universally admitted that there are some circumstances which predispose puerperal women to peritonitis, and it is a matter of high probability, that the same causes acting on an individual of a bad constitution may give rise to that inflammation, the nature of which we have been considering.

One circumstance appears to militate against the probability that the disease under consideration, and that to which it is thought to bear a close resemblance, are analogous. This circumstance is the extreme degree of pain in the one case, and the absence of it in the other. If, however, the mode in which some authors explain this circumstance be correct, the difficulty may be easily obviated. By some it is supposed to result from distention, whereas the abdominal cellular tissue, especially of a female recently delivered, is of so lax a texture, that we could scarcely suppose this cause to have any, the least effect.

It remains now to be observed, that this form of the disease has not been altogether unnoticed by the different authors who have treated of the subject of puerperal fever, although, as already stated, they have not, in any instance of which the author is aware, attempted to explain either its pathology or nature. Traces of this fact may be found in the observations of "Hull on Phlegmasia Dolens," and in those of "Dr. John Clark on the Fever of Childbed." The latter author's account of the pathology of the disease does not correspond with my experience; but I believe that he generalizes too much, not pointing out the distinction between the low form of the disease and the third or intermediate, the pathology of which corresponds with

his description, and which is not, as has already been stated, distinguishable from that of the first or inflammatory species of the disease. More recently Dr. Armstrong notices this form of the disease under the denomination of the "congestive puerperal fever." He confesses, however, that he is ignorant of its pathology; and we certainly cannot agree in opinion with his view of its nature, by which he has been led to recommend a mode of treatment which we conceive to be decidedly injudicious. In the third volume of the Dublin Hospital Reports, this form of the disease is also alluded to by Dr. Douglas; and we have stated at page 276 how we conceived our views to be borne out by the observations of Mr. Travers. It may seem strange that the appearances which I have described should have been unnoticed by others; but the surprise may be lessened when it is remembered that the form of the inflammation which I have been describing is not of very frequent occurrence, and that it is not in every instance that those peculiar appearances of the cellular membrane which are here described are observed. In addition, we find from the description given by some authors of their dissections, that their attention had not been directed to those parts which often are the seat of the effusion we have attempted to describe. Thus one author finishes a detail of about twenty cases by saying, "the uterus and its appendages lay hid in the pelvis," evidently showing that the parts in the vicinity of that cavity lay wholly uninvestigated.

In conclusion, though in some respects I agree with the views of other authors on this disease, in others I find it impossible to adopt their opinions. I differ especially in my views of the nature of the typhoid or low form of puerperal peritonitis and its gradual transition into the others; and my experience has satisfied me, that the treatment of this disease and its kindred varieties should be conducted on very different principles from those which regulate our practice in the genuine inflammatory form. In illustration of these views, pathological and practical, I subjoin a few cases of each form of the disorder.

The three following cases afford examples of the first or phlogistic species of puerperal abdominal inflammation.

CASE I.—C. Aston, ætatis 30, while labouring under fever then epidemic in this city, was delivered of a healthy child. The fever was of a mild type, but was followed, as most cases of the disease then epidemic were, by a relapse. On the morning of the twenty-first day after her delivery she was attacked with rigour and violent abdominal pain. She knew not of any cause for these symptoms, excepting some trifling irregularity in diet, having eaten some meat the evening preceding.

She was visited within four or five hours after the first occurrence of rigour, &c. She complained earnestly and frequently of urgent abdominal pain, of which her countenance was strikingly indicative. She lay

supine, with the lower extremities drawn up on the trunk. Her pulse was small and frequent, and exceedingly hard; tongue white; slight nausea; not any alvine evacuations for some days; she dozed at intervals, but was frequently roused by pain, which was exceedingly aggravated by any, even the slightest motion.

A cathartic powder (calomel and jalap) was administered, and she was placed in an erect posture for the purpose of venesection, on performing which, almost simultaneously with the appearance of the blood, she sunk into a state of most perfect syncope.*

She was quickly replaced in the horizontal position, and the arm bound up.

She was visited again in about two hours. Not any amelioration of the already described symptoms was perceptible; the pain, on the contrary, was more urgent, and the bowels had not been moved by the medicine. The small quantity of blood which had flowed from her arm, exhibited the most unequivocal traces of high inflammation. It was resolved to try again the effect of venesection.† On performing it the result was totally different from what it had been in the former instance. Syncope did not ensue till about twenty ounces of blood had been abstracted, and then it was accompanied with sickness of the stomach, and free evacuation of the bowels. On recovering from the immediate effects of the loss of blood, the pulse was found to be full, soft, and less frequent; the abdomen also had in a great degree lost its painful sensibility.

Leeches were now applied to the abdomen, and were followed by a blister. Three grains of calomel were administered every hour.

From this time the patient did not experience any return of pain, and in a few days suffered only from excessive salivation.

CASE II.—E. Cuming, ætat. 30, a robust healthy female, was delivered on Wednesday, at 5 P. M., after an easy natural labour. She remained perfectly well till Friday morning, when she was attacked with rigours and violent abdominal pain. When visited, although under the influence of opium, which had been injudiciously administered, she was painfully sensible of the slightest pressure on the abdomen. Her limbs were drawn up on the abdomen, which felt exceedingly full. The pain was much aggravated by motion of any kind. Her countenance flushed; tongue white and loaded; bowels had not been evacuated since

delivery; skin hot and dry; pulse 160, small, incompressible, and vibratory.

Venesection was performed without altering her position (supine.) When about twenty ounces of blood had been abstracted, she was raised into the erect posture; and when about five ounces more of blood had flowed, she became quite faint. The vein was then closed, and she was replaced in the horizontal position. A powder (fifteen grains of jalap and ten of calomel) was administered, and followed in two hours by a draught of the infusion and tincture of senna, and sulphate of magnesia.

In the evening her pulse was 120, full and soft; bowels not yet acted upon, but were freely during the night; and on the following morning did not complain of pain, but only slight tenderness in the abdomen on pressure; pulse was of the same frequency and character as the preceding evening; tongue beginning to become clean round the edges. She was ordered to take three grains of calomel every third hour. In the evening there was not any return of abdominal pain, but she complained of intense headach; the surface of her tongue wherever the white coating was absent, was of a florid* redness. The hair was removed from her head and cold applied; calomel continued during the night, and was followed in the morning by a draught of castor oil.

The next day she was perfectly free from pain; pulse 85, soft and full; slight pytalism. From this period the patient gradually recovered.

CASE III.—This case is another instance of the first species of puerperal abdominal inflammation. The accompanying fever, however, assumed in the progress of the disease the characteristic features of the second or typhoid species.

M. MacCormic was delivered of a living child on Wednesday morning, after a labour of eighteen hours' duration. She drank some spirits during her labour, and, according to her own statement, was treated roughly by the midwife in the extraction of the placenta. On the following Saturday she was attacked

* This florid redness of the tongue is most frequently symptomatic of that species of fever denominated "intestinal,"—a disease often, it is thought, mistaken for puerperal fever.

It may here also be observed, that considerable similarity exists between puerperal intestinal fever and the infantile remittent fever. Each consists of hepatic derangement, together with an inflammation of the intestinal mucous membrane, caused either by the irritating effects of improper diet, or by neglected constipation of the bowels.

The treatment suitable to those diseases consists in subduing the mucous inflammation by means of general or local bleeding, and in unloading the bowels by the exhibition of mild unirritating mercurial cathartics.

* More than once the author has had to remark the premature occurrence of syncope in puerperal patients, who, from causes different from the present, had required venesection.

† Under these apparently discouraging circumstances, venesection was performed by the direction of Dr. Gordon, late one of the assistants of the Lying-in-Hospital. To his decisive treatment the recovery of this patient may be fairly attributed.

with severe pain and general tenderness in the abdomen; she also had cough, with laboured respiration; hot skin; headach; furred tongue; pulse 100. Bowels had been opened in the morning by medicine. Sixteen ounces of blood were taken from her by the direction of the medical attendant who first saw her, and a mixture of the sulphate of magnesia and tartarized antimony prescribed.

On the following day her medical attendant found the fever lessened, and the pulse somewhat reduced in frequency; still there was abdominal pain, and the bowels had not been acted upon. He prescribed for her a draught of castor oil and turpentine. The next day (Sunday) the author first saw her. Her pulse was then full and bounding, but not by any means hard; tongue still white; bowels freed; pain in the abdomen, which in several places was excessively tender. Inferring from the character of the pulse that general blood-letting would be inexpedient, the application to the abdomen of leeches was advised; but as they could not be procured, a large blister was substituted, and five grains of calomel directed to be administered every second hour.

At the next visit (on Tuesday) her countenance was expressive of the most dejected sinking the author had ever witnessed. She said, however, that she had not any pain whatever except that occasioned by the blister, and by the effects of the medicine. She complained of excessive weakness and exhaustion, to which she attributed her total deprivation of sleep during the preceding night. Her tongue was clean; pulse 130, small, and exceedingly feeble. A draught was prescribed for her, consisting of ten drachms of camphor mixture, a drachm of the aromatic spirit of ammonia, and thirty drops of tincture of opium; to be repeated every second or third hour, and the calomel to be continued. She was permitted to have, in addition to her other drink, beef-tea *ad libitum*.

It is unnecessary to enter into the details of this case any farther than to state, that for upwards of a week she continued to suffer much from exhaustion and want of rest. The same plan of treatment was followed up. On some days, from weakness and want of rest, it was found necessary to repeat frequently the draught. The use of calomel was steadily continued. Her strength was supported by means of beef-tea, and small quantities of wine in arrow root. At the expiration of three weeks she was perfectly convalescent.

It may be considered questionable whether this was an instance of a case changing from the inflammatory to the low species of puerperal abdominal inflammation, or (what indeed would seem more probable) that the symptoms should be regarded as those of irritation and debility, consequent upon the disease itself, and upon the means employed for its removal. The symptoms attendant on the low form of the inflammation, and those which denote irritation and exhaustion, frequently are so

similar, as to be barely distinguishable from one another.

A case once occurred within the observation of the author, which, on a cursory view, was set down by an experienced practitioner as an exceedingly well marked case of puerperal fever. On examination, however, the patient was found to be totally free from pain, but very greatly exhausted. She had been treated roughly by the person who attended her, and considerable hemorrhage accompanied the removal of the placenta, which was extracted rudely. As her symptoms appeared to resemble those which often are to be met with in persons who have undergone bodily, as it is termed, operations or accidents, the trial of a stimulating plan of treatment was suggested. Accordingly, she was allowed wine and chicken-broth, and other similar articles, and in a few days was convalescent.

It affords the author much pleasure to find that his views of the treatment of the low species of puerperal abdominal inflammation are in some measure confirmed by the observations of so experienced a surgeon as Mr. Travers. In his treatise on "Constitutional Irritation," a work worthy of the attention of every medical practitioner, the following remarks are to be found:—"There is a case in which, with an unconfined state of the bowels, abdominal after-pain aggravated by pressure augments at no distant period from delivery to a degree sufficient to induce the belief that puerperal inflammation exists. The pulse is accelerated, and, notwithstanding its want of power, and a general expression of feebleness, the practitioner, suspicious of the pain, takes away a full quantity of blood. Not any satisfactory result is obtained; the pulse and the patient sink together, and a fatal coma succeeds. This is a pain not of inflammation but of irritation, and would have a better chance of relief from laudanum than from the lancet."—P. 67.

Although in the foregoing quotation Mr. Travers seems to have erred in setting down exclusively to the account of irritation symptoms which should be considered to denote the existence of that low form of puerperal abdominal inflammation which we have been considering, yet his views corroborate our statement of the injury consequent upon venesection when resorted to in these cases, and the value to be derived from opiates in combination with other remedies.

The four following cases afford examples of the second or low species of puerperal abdominal inflammation.

CASE I.—Mary Litton, æt. 30, was delivered, after a natural labour, on the 21st of April. This was her first pregnancy. Her health had, for some time previous to her confinement, been considerably impaired, and she had also suffered considerable mental anxiety. The practitioner who attended her, struck with her miserable appearance, gave directions that he should be instantly summoned in the event of hemorrhage, or of any other change of importance. On visiting her the next morn-

ing, he was surprised to learn that in the course of the night there had been considerable hemorrhage, followed by nausea, chillness, and great prostration of strength. She did not complain of any pain, and was merely directed to take some mildly aperient medicine.

On the third day after her delivery the author visited her for the first time. The ghastliness and sunken expression of her countenance were strikingly remarkable; her skin was of a dull sallow colour; the tongue a light brown shade, but without any coating. On inquiring into her ailments, she did not complain of pain but only of weakness and exhaustion, and total deprivation of sleep since her delivery. She had vertigo, unaccompanied, however, by headach; was much distressed by flatus. On making rather strong pressure, some uneasiness was caused in each iliac region. Her bowels had been freed by the medicine. Pulse 130, small, and excessively weak; occasional chills; skin covered with a cold clammy moisture.

Twenty leeches were ordered to be applied to her abdomen, to be succeeded by a blister immediately on their ceasing to bleed; five grains of calomel, with half a grain of opium, to be taken every second hour, and small quantities of wine in arrow-root and whey to be used frequently in the course of the day. The leech bites did not bleed more than usual; but at the next visit on the following day (the fourth after her delivery) the patient appeared to have been much weakened. Pulse scarcely perceptible; extremities cold; clammy moisture diffused generally over the surface of her body; stomach regurgitates without effort all ingesta.

At 10 o'clock P. M. she expired.

Post mortem examination.—Large spots resembling those seen in purpura were scattered over the integuments of the anterior surface of the thorax, and of those parts of the body which were most elevated as the patient lay in bed.

On opening the abdomen the intestines were found much distended with an inodorous gas; but there was not any vascularity observable either in their structure or in the peritonæum of the abdominal parietes; neither was there any effusion of lymph. Towards the lower part of the abdomen, within the peritonæal cavity, about one pint of an oily purulent fluid was found. The reflections of the peritonæum, which form the broad ligaments of the uterus, were completely separated by a transparent gelatinous fluid; and the peritonæal investment of the iliac and psoæ muscles, was detached from those muscles by a similar effusion. The pelvic cellular tissue was distended by the same substance. On making incisions for the purpose of ascertaining the nature of this effusion, it did not escape in a fluid form, but was of the consistency of jelly.

The cellular tissue of the other parts of the body which were examined was quite free from this effusion, or from any morbid appearance.

The ovaries had undergone a most remarkable change; they were much enlarged, and altered in appearance; they were of a dull brown colour, and so much softened, that in taking hold of them for the purpose of removal one was broken in the hand.*

The thorax was examined, and about three ounces of dusky watery fluid were found in the cavity of each pleura.

CASE II.—Mary Clark, a widow, was delivered of an apparently healthy illegitimate child on Wednesday. Any particulars relative to her state of health, &c. previous to her confinement could not be ascertained; but it is presumed that, being the victim of seduction, she had suffered at least mental anxiety. On Friday morning, her friends being alarmed at her condition, called on a medical practitioner of considerable experience, who, conceiving that she laboured under puerperal fever, took about twenty ounces of blood from her, and prescribed some cathartic medicine. The author saw her for the first time within a few minutes after venesection had been performed. She had not any abdominal pain or tenderness; but as she appeared not to have perfectly recovered from the effects of venesection, much attention was not paid to her state.

On visiting her a second time, after the lapse of two or three hours, our attention was arrested by the appearance of the blood which had been taken from her, which had formed into a soft coagulum without any vestige of buff. The expression of her countenance strikingly evinced debility and collapse. She lay stretched in bed quite languid, and appeared to use a considerable effort to hold out her hand for the purpose of having the pulse examined. It was 120, full, but exceedingly feeble; her tongue was white and moist; temperature of body natural; abdomen tumid, but not at all either painful or tender; bowels free. She complained solely of weakness, and begged for some porter in the most urgent manner, and seemed to think that nourishment would cure every ailment.

At the next visit, (at 6 P. M. the same day) she was found vomiting; abdomen puffed up; pulse scarcely discernible; extremities cold. She died in a few hours after.

Examination of the body fourteen hours after death.—Abdomen much enlarged; enlargement found to be caused by flatus, and by the distention of the stomach from the liquids she had taken. In the cavity of the peritonæum was found about a quart of fluid, in appearance resembling dirty water. Several portions of the intestinal canal were found softened down and of a dusky colour. But the most strikingly remarkable appearance was an extensive effusion of reddish serum, pervading literally the entire subserous cellular tissue of the abdomen. This fluid com-

* These ovaries are preserved in the Museum of the Medico-Chirurgical School, Park Street, Dublin.

pletely filled the cells of the pelvic cellular tissue, diffused itself along the spine and muscles in that situation; the layers of the mesentery were also pervaded by it, so as to be thereby separated to a considerable extent. There was not any peritonæal vascularity. On opening the thoracic cavity, in each pleura was found fluid resembling that found in the cavity of the peritonæum.

Two days after the death of this individual her child died. It was opened without any specific object, as it had not been visited by any medical practitioner during life. Morbid phenomena similar to those which had been observed in the mother were in miniature equally remarkable and distinct in this case, there being the same subserous effusion, and a fluid in the cavities of the pleura and peritonæum similar to that already described in the case of the mother, with this sole difference, that a few minute particles of lymph were suspended in the fluids in the latter case.*

CASE III.—E. Murphy, ætat. 30, third pregnancy. Health much impaired for some months; skin covered with a leprous eruption. She was delivered on Friday, 25th April, at 5 P. M. after a perfectly natural labour; child and placenta being both expelled by the unassisted uterine efforts. Subsequent to delivery there was hemorrhage to some extent, but it was controlled by means of cold applications, and by pressure applied over the uterine tumour.

The following morning she was attacked with rigour and pain in the abdomen, for which she took some castor oil. When visited in the evening, she said that the castor oil had caused both vomiting and purging, but not any remission of the pain. She complained both of exhaustion and pain in the abdomen; and pressure on the surface of that cavity, especially near the umbilicus, produced decided pain. Her countenance was strongly expressive of pain and exhaustion; the pulse was too rapid to be counted, and so feeble as to be with difficulty perceptible; her extremities were cold, and skin covered with a clammy perspiration; tongue had a healthy appearance.

The alvine evacuations and urine were passed involuntarily. Her voice was weak and faltering.

She was directed to take every second hour two table spoonfuls of a mixture composed of seven ounces of the compound infu-

sion of mint, half an ounce of the aromatic spirit of ammonia, and one drachm of the tincture of opium; a pill containing five grains of calomel to be taken every third hour; the abdomen was covered with a blister; heat applied to the extremities; and chicken broth nearly cold was administered to her frequently.

On Sunday the 27th, 9 A. M. she had enjoyed some refreshing sleep during the night; stomach settled, but she is still excessively weak, and the abdominal pain is not at all diminished. The pills and mixture to be continued.—Sunday evening, 10 P. M. The blister has just been removed, and the entire surface of the abdomen is covered with vesications: the pain and tenderness is much diminished, and confined chiefly to the right iliac region; the pulse is of less frequency and stronger; the tongue covered with a brown crust. The pills to be continued.—Monday 28. The pills have this day produced vomiting and purging, which have had the effect of weakening the patient exceedingly. They were therefore discontinued, and the mixture ordered on the 26th substituted in their stead. As soon as those symptoms (vomiting and purging) had ceased, calomel was exhibited as formerly, with the addition of a small quantity of opium to each dose.

From this time no change of importance occurred; the abdominal pain gradually subsided; the pulse diminishing in frequency and increasing in strength, and the tongue becoming clean. The symptoms which continued longest to distress the patient were those of exhaustion, which were relieved by the occasional use of the mint mixture, by a moderate allowance of wine, and by light nutritious diet. This patient had a perfect although a slow convalescence.

CASE IV.—E. Shaw, ætat. 34, of a good constitution, was attacked with typhus fever about eight days previous to her accouchement, which took place at the regular period, and without any remarkable occurrence. She had been attended by a young medical gentleman, who kept her on a very low regimen, and prescribed occasionally cathartics.

On the author's visiting her the third morning after her delivery, she presented quite the appearance of collapse. Her eyes were dull and glassy, and her countenance displayed sinking and anxiety. She complained not of pain but of excessive weakness and exhaustion, not having enjoyed any sleep for three nights; her pulse was 130, full, but excessively weak and compressible; the abdomen felt large, but soft, and pressure did not produce the least pain or uneasiness. Her bowels had been freely opened in the morning. Her tongue presented a most remarkable appearance, being of the deepest purple shade as if painted with ink; it was not, however, either dry or loaded: the breasts were quite flaccid.

She was ordered to take every second hour three grains of calomel and two table spoonfuls of a mixture composed of aromatic con-

* It is just as probable that children should be the subjects of the low form of the inflammation as of erysipelas,—an occurrence not at all unusual.

Sometime ago the author attended a child, who, when but four days old, was attacked with phlegmonoid erysipelas. There was extensive suppuration of the cellular tissue, extending from the neck to the coccyx. The child recovered under the use of the sulphate of quinine.

fection, cinnamon water, and tincture of opium; and to be allowed wine in arrow root *ad libitum*.

The following day there was the greatest alteration in her condition. Her countenance was cheerful; she had slept during the whole of the night, and felt refreshed; the pulse had become less frequent, and gave some resistance to the finger; the tongue had undergone a striking change, not retaining the already described appearance, but being covered with a dense brown crust.

The author did not see this patient again for some weeks. She was then quite recovered. The use of calomel had been continued by the practitioner who first attended her, till ptyalism was induced. Her strength was gradually recruited by a nutritious diet.*

The two following cases may be referred to the third or intermediate species of puerperal abdominal inflammation.

CASE I.—Mrs. Campbell was delivered of her first child on Thursday, 6th March, at 9 A. M. The child was born at the expiration of the fourth hour from the commencement of labour, but the placenta was retained for more than an hour, and at length removed by the hand.

On Friday she suffered a good deal from after-pains, but in other respects was quite well. The following day, slight tenderness in the abdomen was perceived on pressure, but it was not looked upon as very serious. She was directed merely to take some purgative medicine.

On Sunday she was exceedingly ill. Much pain in the abdomen was complained of. In every part it was exceedingly tender to the

* The author has been informed by an exceedingly intelligent friend, that this appearance of the tongue is not at all uncommon in cases of puerperal fever.

It may perhaps be imagined that the preceding case, on account of the absence of pain, was not one of puerperal fever. However, as has been elsewhere stated, pain is not to be considered as an invariable or as an essential concomitant of the low species of puerperal abdominal inflammation.

The reader is requested to contrast the preceding case with the following quotation:—

“Neither are those cases where acute pain exists the most to be feared. Whoever has watched the progress of disease in its worst form in the puerperal state, may have observed the approach of death depicted in the countenance of the sufferer, when every answer to the inquiry if there existed any pain has been in purport, ‘no, no pain; but so weak.’ Nor is this state the mere termination of painful symptoms by mortification described by authors. It does sometimes occur without any pain during its progress, which in this form is usually of short duration.”—*Vide* Armstrong on Puerperal Fever, 2d. edit. p. 235.

touch, and the uterus was felt much enlarged; pulse frequent, but not hard; tongue furred; countenance languid.

Twenty-four leeches were ordered to be applied to the abdomen, and three grains of calomel to be taken every third hour. This night the pain was so violent, notwithstanding the leech-bites had bled profusely, that a fatal result was anticipated. On Monday a remarkable improvement had taken place; the pulse considerably less frequent; abdominal tenderness and pain much diminished; bowels much affected by the pills. She was ordered a draught of castor oil, with peppermint water and oil of caraways. On Tuesday the pain was still further diminished, and the pulse lessening in frequency. The calomel to be continued in combination with opium. From this time the pain gradually subsided, and the use of calomel continued till ptyalism was produced; the cervical glands became swollen, and her general health was much impaired. She was ordered to the country, and has since returned in perfect health.

CASE II.—Mrs. Kelly had slight hemorrhage about one fortnight previous to her accouchement; but in other respects enjoyed good health by means of saline purgatives and by rest. The hemorrhage was checked, and did not occur again till the morning of her delivery, when there was a slight return, which ceased on her being placed in bed. She was delivered on Tuesday, at 5 P. M. The labour was of but short duration, and the placenta was expelled by the unassisted uterine action. The following day she was as well as she could possibly be; was quite free from pain; pulse 80. The next morning she said that she had had several rigours during the night, followed by flushings of heat. When visited, she complained of pain in the abdomen, which she said prevented her from drawing up her legs, or from being able to move at all; the uterus felt large, and was tender to the touch; there was also excessive tenderness all over the left side of the abdomen; skin hot; pulse full and throbbing, but yet weak; tongue covered with a white coating, through which shone red, erect papillæ. Her bowels had been slightly affected by medicine.

She was directed to take eight grains of calomel at once, and after two hours, to take of a mixture of equal parts of turpentine and syrup and water two table-spoonfuls, every second hour, till her bowels were well freed. On Friday there was less heat of skin, and tongue was somewhat cleaner; bowels had been freely acted upon by the medicine; the pulse, however, continued the same, and the abdominal pain and tenderness as yet were unmitigated. Thirty leeches to be applied to the abdomen. The leeches bled freely; and on the next day neither pain or tenderness in the abdomen were complained of; the pulse was down to 100, but very feeble; for the first time complains much of exhaustion. Ordered a draught of castor-oil.

From this time the pulse gradually came

down to the natural standard. There was not any return of pain, and the patient became quite convalescent.

From the *Lancet*.

ON HYDROPHOBIA.

By DR. CH. MAYER, of Petersburg.

The author points out two remedies to which the lower classes in Russia, from time immemorial, have attached the most implicit credit as preventatives of rabies; *Euphorbia Cyparissias*,* and *Anchusa Officinalis*; they are taken in concentrated decoctions, and are even said to have cured hydrophobia, which, however, is doubted by Dr. Mayer.

As to the sublingual vesicles of Marochetti, he has never seen them, nor could they be discovered in any one of the fifty individuals affected with rabies, who were treated in the hospital of Moscow.

The swallowing of a large quantity of fresh blood has lately been recommended; and Dr. Mayer was informed that, in the southern parts of Russia, the blood of the *Anas Clypeata*† is so universally employed in hydrophobia, that the bird is bred for this purpose alone. There exist, however, no proofs of the efficacy of this method.

Dr. Mayer relates two cases of hydrophobia, which, from their pathological and therapeutical interest, deserve the attention of our readers.

1. A man, forty years of age, was, in the month of May, 1820, bitten by a cat; the wound healed in four days. On the 19th of March, 1828, he was tormented by a violent venereal desire, which he, however, did not satisfy. On the evening of the same day he became morose, and had all the precursory symptoms of rabies, which first manifested itself on the 25th of May, by a violent shivering and terror at the sight of the holy water, in a church. He was immediately carried into the hospital, and soon exhibited all the symptoms of confirmed hydrophobia. The contact of tepid water caused less shivering and convulsions than that of cold water, and there was no dread of bright surfaces. The cicatrix of the wound was scarified, and covered with a blister; five ounces of blood were taken from the arm; and, according to Magendie's plan, a pint of water, at 101 degrees, was injected into the cephalic vein of the right arm, during which operation the patient had a burning sensation in the left subclavian region: after it, the pulse fell from 90 to 60, and became very small. This injection of warm water was twice repeated in the space of about eight hours, and accompanied by nearly the same symptoms; the vein became, in its whole course, turgid and pain-

ful, and the patient complained of a very unpleasant sensation of heaviness in the region of the heart. At midnight a profuse perspiration came on, especially on the chest, without, however, being followed by any alteration in his state. On the 25th of May, the injection was repeated; to the dread of water, a perfect horror of wind, or any movement in the air, succeeded. At noon, he was prevailed upon to take some hot beer, of which he at last, by means of a long tube, succeeded in swallowing three ounces; it was, however, soon brought up again. On the 26th, tepid water was injected a fifth time, but tetanic convulsions supervened, and he died the same day.

On examination, the pia mater was found much infiltrated; the substance of the brain hard and injected; the vessels of the pons Varolii and medulla oblongata, particularly near the origin of the auditory, fascial, pneumogastric glossopharyngeal and hypoglossal nerves, were gorged with blood; the arachnoid of the spinal chord was injected, and contained a serous effusion; the salivary glands were filled with a dark liquid blood.

2. A young man had an ulcer on the left leg, which he suffered his dog to lick frequently; it healed within a short time, but the dog shortly became rabid, and six-and-twenty months afterwards the young man was, without any further assignable cause, attacked with Hydrophobia. In this patient, also, dread of the least movement in the air was observed. He died on the eighth day of the disease.

On examination, the brain and medulla spinalis presented unequivocal signs of inflammation, which appeared to have had its principal seat in the coats of the cerebral nerves. —*Hufeland's Journal*.

From the *London Medical Gazette*.

HYDROPHOBIA.

To the Editor of the *London Medical Gazette*.

SIR,—As the following case may throw some additional light on the pathology of hydrophobia, I have sent it you for publication.

I am, Sir,

Your obedient servant,

F. GOODRICH.

On Thursday morning, the 25th ult. I was called up about seven o'clock to see a man who I understood was exceedingly ill, and waiting in the surgery very impatiently for my arrival. I found my patient (Mr. Barham) a fine looking old man, about 60, labouring at intervals of about five minutes under strong spasmodic paroxysms, affecting the muscles concerned in breathing and deglutition. There was a wildness and an impatience depicted in his countenance, totally different from any thing I had ever observed in other spasmodic affections. His bowels were open, tongue clean, skin moist, pulse full and a little acce-

* A species of spurge.

† A bird of the duck kind, called the "shoveller."

lerated. I took away twenty ounces of blood, and prescribed a mixture containing ʒss. of laudanum for a dose every hour until I should see him again. He walked home half a mile from my house (Gloucester Road, Old Brompton), and left me ruminating on the possible cause of so much mischief occurring suddenly in a fine healthy subject. At ten a message was sent, saying that he was much worse, and requesting me to call as soon as possible. He received me tranquilly, and said he was very glad that I had come to see him, for he was very ill. His symptoms were now more distressing than when I first saw him: he looked wildly and suspiciously at every one entering his apartment, and his breathing was accompanied by a short convulsive sobbing. On looking at his medicine I perceived he had taken none, and expressing my surprise, he assured me it was impossible for him to swallow a single drop, as the attempt had been followed by violent spasms, and produced so much distress, that he had desisted. At this period no one had the slightest idea of the origin of his malady. I poured out some medicine into a tea-cup, the very act of which produced much excitement and alarm. My first impression as to the true nature of his disease arose at this period, from the circumstance of his requiring a tea-spoon, with which he endeavoured to take some of the medicine. The attempt produced much excitement and alarm, and after two or three painful efforts at deglutition, with one desperate effort he swallowed a tea-spoonful, threw away the spoon, and begged, unless I wished to destroy him, that he might have nothing more to swallow. I now left his room, and inquired of a by-stander whether any thing particular had occurred to him within the last few weeks. On recollection she said, "About a month since, late at night, a strange dog came into the premises and fought with his own dog; he got out of bed to separate them, and the strange dog bit him in two places, on the left arm and hand; and bit a puppy, which died about a fortnight after in a strange way, which was thought to be some kind of a fit." To ascertain if this occurrence had produced any effect on his mind, while again bleeding him I said, "You have been in the wars, Sir, and had your hand and arm torn; how did it occur?"—"Oh!" said he, carelessly, "that was done by a dog a long time ago, but it healed." The circumstance was never again mentioned to him, and he died in total ignorance of the cause of his malady. The wounds were perfectly cicatrized, and there was not the least action going on indicative of recent absorption. He bore the bleeding pretty quietly: 40ʒ. were removed, which on cooling presented strong marks of inflammation.—Ordered ℥iv. Acid. Hydrocyan. omni horâ, in a little water.

Twelve o'clock.—With much difficulty he has taken two doses of the acid; pulse full and hard, 110. 30ʒ. more blood were removed.

Three o'clock.—Has taken two more doses;

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complains of a dreadful sense of suffocation, and implores that nothing more may be given him. Pulse full, and beating at 120 to 130. Continue the acid.

Eight o'clock.—Pulse full and hard. Has taken in all 24 ℥. of the acid, but so painfully distressing has the deglutition now become, that all attempts at repeating his medicine are discontinued.—V. S. ad ʒxxx.

During the bleeding he looked wildly at the basin, and begged that no more might be spilt (a drop or two had fallen), repeating frequently, in great agitation, as the blood was running, "Take care! take care!"

Between two and three o'clock next morning my assistant (Mr. Davies) visited him. He found him tolerably passive, but observing every movement with intense anxiety. Pulse full and hard, face flushed, eyes denoting cerebral irritation. He had been at times outrageous. On its being intimated that bleeding was again necessary, a paroxysm came on more intense than any preceding,—and with great effort he submitted. As the blood flowed he became more and more alarmed, till at length he got quite unmanageable; he raged violently at his nephew, who was holding the basin, and ordered it peremptorily to be removed. 30 or 40ʒ. were taken away. It was found necessary to put on the straight waistcoat. About four o'clock Mr. Davies wished him to take some more of his medicine. He said, "I can take no more," and on reaching the bottle to put out a few drops, he became violently agitated, threw himself from side to side, and, as well as the incessant spasmodic sobbings would allow, he begged that not one more drop of any thing might be offered him, and that the bottle might be taken from his sight. He did not become tranquillized until its removal. He lingered on till ten A. M. in the same state, a few minutes before which he insisted on getting up, and walked a short way down his garden, returned, laid down on his bed, and died.

Mr. Frederick Salmon, of Old Broad Street, and Mr. Wilson, of Chelsea, were kind enough to assist me in conducting the post mortem examination. On opening the chest, the heart was free from disease, with rather more water in the pericardium than natural; the lungs were completely gorged with grumous blood, and the pleura adherent on the right side. On removing the cranium, which was remarkably thin, and cutting the substance of the brain, numerous red spots presented themselves in the medullary portion; about a table-spoonful of water in each ventricle; the plexus choroides was turgid; the corpora, striata, thalami, and basis of the brain every where preternaturally injected; the cerebellum, crura cerebri, and cerebelli, in a high state of inflammation. On removing the spinous process of the vertebra, the whole cord was considerably inflamed; and opposite the two last cervical and dorsal vertebrae the cellular substance was studded with dark patches of coagulated blood, the theca vertebralis thickened, and the cord in

an active state of inflammation. The larynx and pharynx bore not the slightest vestige of disease. The preparation of the cord is deposited in the museum of the London University.

The post mortem examination of this case tends to prove the correctness of Professor Thompson's theory of the proximate cause and seat of this afflicting malady; and the plate accompanying a case recorded by him, in the 13th volume of the Med. Chir. Society, gives a faithful delineation of the state in which the spinal cord was found in this case.

From the London Medical Gazette.

PATHOLOGICAL ESSAYS ON SOME DISEASES OF THE HEART; *being the Substance of Lectures delivered before the College of Physicians.* By P. MERE LATHAM, M. D., Physician to St. Bartholomew's Hospital.

ESSAY II.

Morbid Anatomy of the Internal Lining Membrane of the Heart.

The membrane which lines the cavities of the heart is very liable to disease, but not equally so in every part. Where it is thin and transparent, and admits the colour and character of the muscular structure upon which it is spread to be seen through it, it is seldom found diseased; but where it is of a denser texture, either in itself or from an admixture of other structures, whether cellular or fibrous, with its own, it is frequently, and often exclusively diseased. This latter character of a denser texture belongs to it where it forms the tough white circles which surround the apertures of communication between the auricles and ventricles; also where it is reflected upon itself, and forms the loose duplicatures of membrane, which are given off, as it were, from the internal surface of the heart, either at the fibrous circles intermediate between the auricles and ventricles, constituting the tricuspid and the mitral valves, or at the commencement of the pulmonary artery and aorta, constituting the semilunar valves.

It is remarkable how curiously disease is apt to limit itself to the spaces just pointed out. Of the fibrous circle between the auricle and ventricle, of the valves which originate from it, and of the tendinous cords which connect the valves with the carnea columnæ, there will not be the smallest space free from disease; but the disease will abruptly stop where the tendinous cords cease and the carnea columnæ begin.

The membrane, however, where it covers the fleshy columns of the heart, is not exempt from the possibility of disease: but when disease actually affects it, it has seldom originated there, but has generally spread from other parts of the same membrane, although (as we have just remarked) it is apt to stop short before it reaches this.

Of the two sides of the heart, the membrane which lines the left is unquestionably

the more liable to disease. But my own observation would never have led me to conclude that the membrane of the right side was so far exempt as it is commonly thought to be. Speaking from the best recollection I have of the specimens which have fallen under my examination, I should say that, in one-third of the cases where disease has been found on the left side, it has existed on the right side also, and been essentially of the same character. But there has been a remarkable difference in the extent to which it has proceeded on each side respectively: while on the left it has gone so far as to be the undoubted cause of death, on the right, although essentially of the same character, it has been only just beginning.

It very seldom happens that disease appertains to the lining of the right cavities of the heart exclusively; and, where it affects both, the disease in the right cavities is very seldom found in advance of that in the left.

It should seem, indeed, according to the ordinary course of things, that disease does not begin in the lining of the right cavities of the heart, until it has already advanced to an extreme degree in the left.

The internal lining of the heart, as well as of the arteries, is often found to have become of a red colour. This redness, so well known to all who are accustomed to examine dead bodies, used to be regarded as a mere stain imparted to it by the colouring matter of the blood after death. Yet a due consideration of various circumstances connected with it will hardly warrant this conclusion.

It has been found whether the heart or artery be full or empty of blood; and if blood be present it has been found, whether it is liquid or clotted; and if it be clotted, whether it does or does not retain its colouring matter. External temperature, and length of time between the death of the patient and the dissection of his body, have not made any difference in the frequency with which this peculiar appearance occurs. Lastly, no artificial methods, such as washing of any kind, can get rid of it; nor will enclosing blood within an artery for any period produce it.* This simple redness is sometimes seen universally in both sides of the heart and throughout the whole arterial system, and sometimes in patches only, of greater or less extent, whether in the arteries or in the heart.

Now, when all these circumstances are considered, although in some instances it may be a mere stain imparted by the colouring matter of the blood after death, it is plainly impossible that it should be of that nature in any large proportion of the numerous instances in which it is found.

But if the appearance in question implies (as I believe it generally does) a morbid condition, of what kind is that condition? There are the same objections to considering mere redness as equivalent to inflammation here as in the pericardium, or in any other part of the

* Andral, vol. iii. p. 411.

body: here, as elsewhere, in one case it may be the condition out of which inflammation is to spring; while in another it may not be destined to give origin to any change in the structure of the part beyond itself, and may itself constitute the whole disease.

It appears to me, that this mere redness of the internal lining of the heart and arteries has become a matter of undue perplexity to pathologists, because they have laboured to infer from it more than the simple fact itself will authorize. All I wish to establish concerning it is, first, that it is not always (probably very seldom) a mere stain imparted by the colouring matter of the blood after death; secondly, that it alone does not constitute inflammation.

It may not be improper to mention the circumstances under which it has occurred to myself to find it. I have met with it most frequently, and to the largest extent, in subjects whose previous disease has produced a constant and habitual impediment to the transmission of blood through the heart and through the lungs, and that impediment has gone on increasing to the hour of their death; also in those, whatever might have been the nature of their disease, whose dissolution (I mean the actual process of dying) has been tardy and agonizing, and marked by great labour of respiration; in the apoplectic, for example, in whom, after sense and consciousness were extinct, life had been protracted, with stertorous breathing, for many days.

In such subjects the countenance, the lips, and the whole skin, give evidence during life of blood pushed beyond the natural sphere of the circulation, and detained in the extreme blood-vessels. Hence it is obvious that the causes which have loaded and distended the capillaries in every part of the body have had a like influence upon the vasa vasorum.

I do not mean to say that I never met with this peculiar condition of the heart and arteries under other circumstances, or that other causes may not produce it; but that I am not acquainted with it under any other with which, from frequent coincidence, it has seemed to have a natural connexion, or which have afforded a reasonable explanation of the phenomenon.

This condition of the heart and arteries, considered as inflammation, has been assigned by some as the cause of fevers of the more malignant kind. The frequency with which it has been found in some particular epidemic, must have led to the conclusion. But, however this may be, from my own observation, not restricting myself to the fever of any particular season, but taking into account all complaints called febrile, and belonging to all seasons, also from the result of inquiry among medical men who have had large acquaintance with morbid dissections, and from the experience of those who have made this particular point a subject of investigation (Laënnec and Andral) I venture to conclude that it has no essential connexion with fevers of any kind, either as cause or as effect.

On some occasions the internal membrane of the heart and arteries, wherever it exhibits the appearance described, will allow itself to be peeled off from the subjacent structure with the least possible force; this facility of separation ceasing entirely beyond the boundary of the red tinge.

Here unquestionably is further evidence of a diseased condition: but of what nature? Most pathologists would consider this to be of the nature of inflammation—and I believe justly.

There is indeed much difficulty in pronouncing upon the nature of minuter changes of structure detected in the internal parts of the body after death. We are obliged to arrive at conclusions by help of analogies drawn from morbid processes, which we have watched in their progress during life, upon the external surfaces; for during life we have the functions and sensibilities of the part to aid us in forming a right judgment concerning its disease. When, during life, one tissue is separated from another, as the periosteum from the bone, or the cuticle from the skin, or the mutual cohesion between different tissues is sensibly weakened, we find it to be owing to the intervention of serous fluid which does not belong to their healthy state; and this, together with increased vascularity, or redness and heat, and pain, is enough to bespeak the presence of inflammation. All these conditions cannot remain after death. Hence, if we desire to form positive opinions concerning much which is unfolded by dissection, we must supply the defect by analogy. Thus, whenever, in any part of the heart or arteries, the cohesion between the internal membrane and the subjacent structure is manifestly lessened, and the membrane is unusually red at that part, we may regard these appearances as the vestiges of inflammation, without thinking that we go too far in so regarding them.

The internal lining of the heart and arteries is often found red solely in the neighbourhood of ulcerated spaces, when there can be no doubt concerning the existence of inflammatory action.

But the internal lining of the heart and arteries gives the most unequivocal evidence of its inflammation when it is found of a deep red colour, with coagulable lymph adhering to its surface. This condition is represented, as it was found in the aorta, in one of the beautiful plates, illustrative of the diseases of arteries, by Mr. Hodgson.* And the same condition, in the heart, I have seen in a preparation of Dr. Farre's, where lymph is deposited upon the circular zone, which forms the aperture of communication between the left auricle and ventricle. These appearances denote the most acute inflammation: they are, I suspect, very rarely met with. In the few instances in which I have heard of them, they have been found where death has taken place after short and severe suffering, and with symptoms which characterize inflammation.

* Pl. 1, fig. 5.

But the specimens of disease most frequently met with in the internal lining of the heart, consist in an entire change of its natural structure, and in the formation of new products upon it or within it. Many of these, from the analogy of morbid actions in other parts of the body, must be considered to result from chronic inflammation.

In any of those situations which have been stated as especially liable to disease, the membrane will become thick, tough, inelastic, puckered and shrivelled; and cartilage or gristle, and bone, will enter into its structure; excrescences will sprout out from it, resembling warts and fungus; and it will become ruptured and ulcerated.

Cartilaginous depositions are often found beneath the membrane where it is single; or between its folds where it is double, in the situation of the valves; and thus they seem rather to belong to some structure contiguous to the membrane than to the membrane itself. Such depositions will proceed to a considerable extent, while the membrane still remains free from disease. From a valve, which has been thick, opaque, and cartilaginous, I have seen the membrane separated on both sides, and transparent; the opaque and cartilaginous matter being left behind. Where, in cartilaginous depositions, the lining of the heart has become puckered and uneven on its surface, and the valves shortened and altered in their shape, the membrane itself participates in the disease, and is generally incapable of being separated from the subjacent structure. But great thickening may take place in the situation of the valves, from deposition of cartilage, without any unevenness of their surface or alteration of their shape; and under these circumstances the membrane itself you may expect to find hitherto exempt from disease.

Osseous depositions are always, I believe, originally formed beneath, or exterior to, the membrane, both in the heart and in the arteries. There are two circumstances especially worthy of remark in this process of ossification: sometimes it is a pure and unmixed process: bone is formed, and nothing else. It is deposited in minute granules, or little brittle scales, or in plates of a larger size; and the intermediate spaces, whether in the heart or arteries, preserve their natural and healthy appearance. At first, these granules or scales, or plates of pure bone, are covered by a delicate pellicle, which is in fact the internal membrane of the heart or artery, separating them from the immediate contact of the circulating blood. But in process of time, as they increase in size, and become rough and unequal on their surface, they cause a rupture of the internal membrane, and have now nothing to separate them from the immediate contact of the blood.

Sometimes ossification is a mixed process, or rather, I suspect, the result of another morbid process preceding it. With the cartilaginous depositions already described there is an admixture of bone. The quantity of bone generally bears a very small proportion to the

cartilage when they both occur together, as if the bone proceeded from the cartilage, and not the cartilage from the bone. It is sometimes seen growing from the surface of the cartilage, and is sometimes deposited in its substance, and only detected by the knife.

Simple ossification, as it occurs in the heart and arteries, has been classed among the natural changes which the parts in question are liable to undergo after a certain period of life. Of persons above the age of sixty years the proportion is that of seven in ten according to Bichat, in which ossification is discovered in some part of the arterial system. It very rarely happens that simple ossification is found before the period of old age: still it is difficult not to regard it as a morbid process.

But ossification, when it is a mixed process, is unquestionably the result of disease. Is it met with at all periods of life; and probably constitutes one of the terminations of inflammation. The kind of morbid structures with which the bone is united leads to this belief.

Fungous, and wart-like excrescences, are found in all those parts of the internal lining of the heart, which have been already mentioned as most subject to disease. They seem to be the result of a new morbid action set up in parts already disorganized; for I have not met with them where the membrane has been otherwise healthy, but only where it has been thickened or cartilaginous, or ossified, ruptured, or ulcerated. They grow either from the surface of the membrane, or from its ruptured or ulcerated edges, and are always in immediate contact with the circulating blood.

According to my observation, when a fungous or warty excrescence has grown from the ruptured edges of the membrane, it has been from them exclusively, and from no other part of the lining of the same heart. And as rupture of the membrane seldom occurs in more than one situation at a time, the heart of the same individual seldom presents more than one excrescence of this kind: and as the aortic valves are the parts most liable to rupture, it is there that this single excrescence is most frequently found; not that rupture may not take place elsewhere. I once saw a single *chorda tendinea* ruptured; and a single fungous excrescence of considerable size hanging from it into the cavity of the left ventricle.

Now, this morbid growth is evidently connected with the lacerated state of the membrane in the conditions of its production, whereby it is limited to a small space.

It is probable that the membrane is first ruptured; that its lacerated edges inflame, and then throw out unhealthy lymph, or unhealthy granulations, in the shape of these fungous or wart-like excrescences. When they have sprung from a ruptured membrane, they have, in the specimens which I have examined, been larger than when they have arisen under other conditions.

But when such excrescences grow from the surface of the membrane which is thickened and cartilaginous only, but not lacerated, they

are more apt to occur in many parts of it at the same time. I have seen the valvular apparatus between the auricles and ventricles on both sides, as well as the aortic valves of the same heart, studded with them. They were all about the size of hemp seeds: they adhered to the membrane with different degrees of tenacity, and wherever they were capable of being detached, they left a rough surface. The lining of the arteries has been known to give origin to morbid growths of the same kind, which have obstructed the passage of blood, and given occasion to the formation of a coagulum, which has obliterated the pulse.

The internal lining of the heart is liable to ulceration, not as a common consequence of simple inflammation, but as an occasional consequence of some of those diseased conditions which have been described. It is most commonly found around scales and spiculæ of bone, and under such circumstances as to leave no doubt that the bone itself has furnished the source of irritation from which it springs. The ulceration commences from the very border of the bony scale, as if it was a process of nature for detaching it, and to a considerable distance around the ulceration the membrane is reddened, and easily detached from the subjacent structure. Where there are several distinct scales of bone, it is not uncommon to find a circle of ulceration around each of them.

Ulceration is also met with where there is a thickened and cartilaginous state of the membrane without ossification. Under these circumstances, as far as I know, it affects no definite form. It is often a very destructive process of disease, obliterating large portions of the valvular structure, and penetrating deep into the muscular substance of the heart.

Rupture of the internal lining of the heart is not easily distinguished from ulceration. In collections of morbid anatomy, many unquestionable specimens of ulceration are described as specimens of rupture. Rupture must always be looked for in the valvular apparatus of the heart, *i. e.* in the valves themselves, or in the chordæ tendinæ which are their appendages. It is probably incapable of taking place elsewhere, except as a part of a rupture, which involves the whole organ.

That solution of continuity which is evidently without loss of substance; that of which the separated edges when they are brought together are completely adapted to each other; also that which is unaccompanied by any thickening or other morbid condition of the valve; the solution of continuity which is found under these circumstances, may safely be considered to proceed from rupture, and not from ulceration.*

But it is probable that these characteristic conditions do not long remain after the occurrence of the rupture. Complete specimens of them are very rare; but specimens

are numerous where the solution of continuity, by its form and direction, bespeaks rupture, while its rounded edges and the general thickening of the valve denote ulceration. These, it may be fairly conjectured, do in fact exhibit a compound of both. The membrane was originally ruptured, but disease has subsequently arisen and obscured the character of the mechanical injury.

The greater number of those concretions, which were regarded by the older anatomists as polypi of the heart, were unquestionably proportions of mere blood, which had undergone coagulation after death. The blood remaining in the heart after death discharges itself of its colouring matter as it coagulates, and, giving off processes between the muscular fasciculi, assumes a shape which has suggested the name of polypus.

I have often found (I presume, therefore, that it is not an uncommon occurrence) coagula of an irregularly laminated texture having their colouring matter not entirely discharged, but unequally distributed through them, which have been most intimately adherent to some part of the lining of the heart. Of these some have admitted of separation, while the surface of the membrane and the surface of the clot were left rough at the place of contact, and others were incapable of being detached without the membrane being detached along with them. The appendix of the left auricle is a situation in which they are apt to occur, and they are generally accompanied by an extensively diseased condition of the lining membrane. These coagula, from their laminated texture, and from the intimacy of their union with the internal lining, seem to be essentially different from polypi of the heart. They appear to be connected with a process of disease in the membrane, and to have obtained their union with it long before the death of the patient.

I once saw two separate tumours, entirely resembling what are called polypi, between the carneæ columnæ of the left ventricle, and firmly adherent to the heart; and in the centre of each a distinct formation of pus. The heart was otherwise healthy.

There are three preparations in the museum of the College of Surgeons, put up by Mr. Hunter himself, and noted by him as exhibiting "tumours on the inner surface of the right ventricle, seemingly composed of layers of coagulable lymph one upon another, the central part having the appearance of glairy mucus." This last appearance (the mucus) no longer remains in any of the three, but in its stead there is a cavity. The tumours which I have mentioned as originally containing in their centre a distinct formation of pus, also now present in its stead a cavity. The preparation preserved at St. Bartholomew's, and those at the College of Surgeons, are probably specimens of the same disease.

Here what in the recent parts seemed to be pus or glairy mucus, and the cavities still remaining in the preparations, must suggest the suspicion, that these tumours, whether they

* Dr. Baillie's plate.

grew from the surface or were deposited from the blood, had become organized, and afterwards inflamed; and that the inflammation had terminated in the formation of an abscess.

ESSAY III.

Morbid Anatomy of the Muscular Substance of the Heart.

Dr. Baillie, speaking of inflammation of the substance of the heart, says, "When the pericardium covering its surface is inflamed, the inflammation sometimes passes a little way into the substance of the heart:" and then he gives these as the characteristic marks of such inflammation—that "it (the substance of the heart) becomes much more crowded with small vessels than in its natural state, and there are sometimes to be seen a few spots of extravasated blood." Now, this undue vascularity, and these few extravasated spots, where inflammation unquestionably belongs to a contiguous structure, may be deemed sufficient evidence of the muscular substance of the heart participating, or beginning to participate, in the same disease; but, absolutely and exclusively, it may be doubted whether more is not required to give a certain assurance of its inflammation. Here, as elsewhere, we must look for some of the proper products of inflammation; or for some of the permanent changes of texture which naturally result from it, according to its several modes of disorganizing.

It is a very rare event to find pus among the products of inflammation of the substance of the heart: yet this event has occurred twice to my observation. In one instance the whole heart was deeply tinged with dark-coloured blood, and its substance softened; and here and there, upon the section of both ventricles, innumerable small points of pus oozed from among the muscular fibres. This was the result of a most rapid and acute inflammation, in which death took place after an illness of only two days. In another instance, after death, which terminated an illness of long duration and characterized by symptoms referrible to the heart, a distinct abscess was found in the substance of the left ventricle, closed externally by a portion of adherent pericardium, and connected internally with an ossified portion of the lining membrane.

This diffusion of pus, or rather its formation in innumerable separate points, throughout the muscular structure of the heart, by a rapid and acute inflammation, is a singular occurrence. No such case has ever fallen within the knowledge of the most experienced in morbid anatomy, of whom I have made inquiry; neither has any such (as far as I can learn) been recorded in books.*

A single collection of pus,† constituting an ulcer or abscess of the heart, and resulting

from chronic inflammation, is also a rare occurrence, yet not so rare but that a specimen of it may be found in most collections of morbid anatomy.*

But independent of the formation of pus, softening and attenuation, as well as induration and thickening of the muscular substance of the heart, do, in different cases, according to the circumstances under which they are found, both bespeak inflammation.

Together with the unequivocal evidence of inflammation in other parts of the heart, the muscular fibres have at the same time been found very soft and loose, and easily torn; and with this looseness of texture the heart has sometimes presented a dark and almost black appearance, and sometimes it has been almost blanched and colourless. The deep dark tinge shows that the muscular substance is unnaturally loaded with blood; whereas the absence of colour shows that it is destitute of its natural quantity. These different appearances do, in fact, belong to different stages of the same disease. The first indicates inflammation of the muscular substance in its present state of activity; the second, an irreparable disorganization of the muscular substance left by inflammation, when it has been unarrested in its earliest stages. The first is found when death takes place *in a few days after* the accession of the disease; the second, when the patient survives the first attack, and dies at a remoter period.

The inflammation, which produces softening and attenuation of the muscular structure, is, I believe, always of an acute kind.

But induration and thickening of the muscular substance of the heart is also the result of inflammation. This must be distinguished from hypertrophy, or mere augmentation of bulk, of which we shall speak hereafter. In this induration, which proceeds from inflammation, there is, besides increase of bulk and firmness, a manifest alteration of texture. A substance† is produced offering a peculiar resistance to the knife. This condition unquestionably must result from an interstitial deposition of new matter among the muscular fibres. From concomitant circumstances, as well as from its own character, I presume that it proceeds from chronic, not from acute inflammation. I confess that I never saw a specimen of what I now allude to. It is described with some minuteness by Corvisart; but it may be presumed to be very rare, since Laënnec admits that it never fell under his observation.

These opposite states of softening and attenuation in one case, and induration and thickening in another, are known to those conversant with morbid dissection as the evidences of inflammation in other parts of the body besides the muscular substance of the heart.

But there are changes of structure incident to the muscular substance of the heart which are independent upon inflammation, or, per-

* It occurs sometimes in the uterus.

† Memoir de l'Acad. des Sciences. Morand, 1732. Morgagni, Epist. 27.

* Andral, v. 3, 466; Hodgson, plate 1, fig. 7.

† Corvisart, cap. 4, sect. 1.

haps, upon any process which can properly be called morbid. They consist of simple augmentation and simple diminution of bulk and consistence. This simple augmentation of bulk and consistence is owing exclusively to a more ample development of natural structure. The muscular substance is more red than natural, its carneæ columnæ are increased in thickness, and its proper fibrous texture is every where more strikingly manifest; but there is no interstitial deposition of matter new in its kind. It has been called hypertrophia of the heart, and the name conveys a tolerably just idea of its actual condition.

The simple diminution of bulk and consistence is a condition the exact opposite of the former. The muscular substance is less red than natural; its proper fibrous texture less distinguishable; but there is still the appearance of muscle shrunk and withered, as if from an insufficient supply of nourishment. It may be called atrophia of the heart.

Conjoined with augmentation, as well as with diminution of strength and bulk in the walls of the heart, there is almost always an increase in the capacity of its cavities; and in whichsoever part of the heart the walls are thus augmented or diminished, it is the cavity appertaining to the same part which undergoes the increase of capacity. Hence it appears either that one of these conditions is the immediate and necessary consequence of the other, or that both are the simultaneous effects of the same causes.

Dilatation of any cavity of the heart, with thickening of its walls, is called *active dilatation*; and dilatation of any cavity, with attenuation, is called *passive*.

Active dilatation may appertain to every cavity of the heart simultaneously; and so may passive dilatation. But such occurrences are very rare: for one cavity being naturally more liable to this species of dilatation, and another to that, it most frequently happens that specimens of both conditions are found in the different cavities of the same heart.

The left ventricle is much more liable to active dilatation than the right; and the right ventricle more so than either of the auricles; and of the auricles unquestionably the left. Upon the whole, perhaps, the fact may be truly stated thus—that the left ventricle commonly gains an increase of bulk and strength, with an increase of capacity; and that all the other cavities, at the time that they expand, are rather apt to become attenuated.

It sometimes (though rarely) happens, that, with an increase of strength and bulk in its muscular structure, the left ventricle suffers a diminution of capacity in its cavity. In a case reported by Laënnec, the left ventricle was an inch and a half thick at its broadest, and an inch thick at its thinnest part; and yet its cavity was only capable of containing an unblanched almond. I have seen the same condition in a less degree.—(Laënnec, vol. ii. 698.)

The circumstances under which these opposite conditions, this hypertrophy and atro-

phy of the heart, with the enlargement or diminution of its cavities, arise, must be explained hereafter. At present I would only remark that they are often found conjoined with actual disease in other structures of the heart, such as osseous or cartilaginous thickening of internal lining, adhesion of the pericardium, and ossification of the coronary arteries, to which they owe their origin; and, moreover, that they are often found where the heart is otherwise perfectly sound in texture, and where their cause must be sought in other parts of the body.

The heart is liable to undergo a simple dilatation of its cavities without either thickening or attenuation of its muscular substance. This simple dilatation is sometimes of the whole organ, sometimes of one side, and sometimes only of one auricle or ventricle. When it is of one cavity only, it may be complicated with active or passive dilatation of another, or of all the rest.

There is reason to believe that the heart sometimes undergoes a temporary dilatation, and again returns to its natural capacity; but that the dilatation can only subsist for a short time without becoming permanent.

The power of thus enlarging its cavities, and restoring them to their natural condition, belongs more especially to the right side of the heart.

A large accumulation of fat is sometimes met with about the heart.

The healthy heart is always more or less marked upon its external surface with streaks of white, and this appearance results from the deposition of fat in the cellular texture, which unites the serous covering with the subjacent muscular structure. It is found principally where the venæ cavæ unite to form the right auricle; also at the base of the ventricles, and along the line which marks the boundary between the two, and around the origin of the great blood-vessels as they emerge from the heart. But when fat is deposited in more than these situations, and in more than the natural quantity, it is not so much added to the healthy substance of the heart, as existing at its expense and detriment, and the muscular structure is that which especially suffers. The fibre of the fat heart is pale and wasted, like that of a paralytic limb.—*Mus. of the Coll. of Surg.* 327.

A rupture of the heart is sometimes met with; but all the cases of reputed rupture are not such in reality. An aperture in the walls of the heart, through which blood escapes into the cavity of the pericardium, may result from ulceration as well as from rupture, or from a mixed process of one and the other; but whatever be the precise nature of the process by which this perforation of the heart is effected, it is undoubtedly of rare occurrence.

Where it has been found, there has generally been at the same time some peculiar condition of the organ, which might be presumed favourable to its production. Its muscular substance has been so soft and loose of

texture, that it could be pierced through by the weight of a probe;* or it has been converted into, or greatly intermixed with fat;† or its muscular fibres have been absolutely defective, leaving a certain transparent space, where the internal lining and the pericardium have been in contact, and served to maintain the completeness of the cavity, until the rupture has taken place.‡

Not that a rupture has not been found where the texture of the parts has seemed to offer no natural facilities to its occurrence—as in the case related by Harvey himself, who found a lacerated aperture in the left ventricle, capable of admitting his finger, through which blood had escaped into the pericardium, the walls of the ventricle being increased in thickness and strength, while an obstacle existed at the entrance of the aorta.§ Here the heart must have torn itself asunder by the simple violence of its contraction, in contending against the impediment to the egress of blood from its cavity. This is an effect which would hardly be thought capable of being thus produced; but I can well believe it possible after having seen one of the recti muscles of the abdomen literally torn in twain, in a man who died of tetanus.¶

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THOUGHTS ON CONTAGION, and its
Effects on the Organs of the Living Body.
By THOMAS MASTERMAN WINTERBOTTOM,
M.D.

(Concluded from p. 24.)

If typhus fever be occasioned by inflammation of the brain or its membranes, it is scarcely to be conceived possible how a single patient could escape the treatment generally followed a few years ago, of exhibiting bark and port-wine so profusely, that many patients were kept for days in a state bordering upon intoxication. Though this may be said to be the extreme of the practice, if the fever had

been so acute a disease as *encephalitis*,* can we suppose it possible that without any evacuation, scarcely even of the bowels, under such stimulating treatment, it could be protracted to fourteen or twenty-one days, and even then, not unfrequently, terminate in health. Moreover, the appearances on dissection are extremely various in typhus. In many instances, no trace of injury is observed in parts to which, during life, the greatest pain is referred, so that it is impossible to foretell, with any degree of certainty, any one organic lesion, previous to inspection.† The intelligent Friedereich,‡ justly remarks, that typhus often arises after internal inflammations, treated by copious blood-lettings, and also after long-continued suppurating wounds,—circumstances unfavourable to the supposition of a sthenic diathesis. The first symptoms of typhus sometimes appear like an affection of the liver, with increased biliary secretion, often removed by an emetic; or of the lungs, or of some abdominal viscus; and the affection of the head supervenes only at a late period of the disease. Besides, in cases of violent delirium and long-continued stupefaction, no morbid change has visibly occurred in the brain. In the dissections related by Professor Friedereich, neither inflammation nor congestion was observed; and, under very opposite modes of treatment, the disease was often protracted, or terminated in perfect recovery. He further remarks, that it was rare for the appearances on dissection to correspond with the violence or duration of the cerebral affection, from which he infers, that the appearances of inflammation, when they present themselves, are not essential, but accidental. This opinion is corroborated by comparing the appearances of the brain in other diseases with those in typhus. In such cases he found, where there had been no affection of the head, during life, as great, or even greater congestions of blood, effusions of coagulable lymph, and serum, as in those who died of typhus. From these comparisons it may be inferred, that in many instances the morbid appearances in the head are produced in the last moments of life; that typhus has these appearances in common with other diseases; and hence that no accurate conclusion can be drawn respecting inflammation of the brain, whether it is to be considered as an essential or accidental appearance in typhus.§

* Morgagni, Epist. xxvii. 7.

† Ibid. 2.

‡ Ibid. 3.

§ Harvey, Exercit. altera.

¶ In turning over the Memoirs of the Royal Academy of Sciences, I find two cases of rupture of the heart, reported by M. Morand. They both occurred in the year 1730; and, strange to say, one was that of a Dutchess of Brunswick, who was of the same family as George II. who also died of a ruptured heart. In the one, that of the Dutchess, there was a manifest ulceration through the walls of the right ventricle, its structure being otherwise unimpaired; in the other, where the aperture was in the left ventricle, there was probably a simple rupture, for the flesh of the heart was so soft that the point of a probe would pass through it wherever it was rested. (Mem. de l'Acad. Roy. des Sciences, Ann. 1732.)

* Hildenbrand, Ratio Medendi in Schola Pract. Vindobonensi, pars ii. p. 94.

† Schneider, in his valuable work on typhus, remarks, that the dissection of typhus cases often discovers considerable inflammation and even gangrene in the viscera, though not indicated during life by any local pain which could excite such a suspicion. These inflammations, he adds, do not occasion typhus, but are produced by it.

‡ Entzündung d. endem. charakter im Würzburg.

§ See Thuessink on the Contagious Fever at Groningen, p. 36.

In seven cases of dissections of diseases different from typhus, in which scarcely any affection of the head or delirium was observed, the appearances of turgescence and effusion in the brain were much greater than in patients who had died of typhus.

The experience of Professor Horn, who makes some judicious diagnostic remarks upon inflammation of the brain and typhus,* agrees with the assertion of Peter Frank, that inflammation of the brain from internal causes is extremely rare, and that the symptoms indicating it are extremely fallacious.† “Hoc viscus (cerebrum) et quibus involutum hæret, velamenta, ob causas quidem *externas*, frequentem; sed ob *internas*, quod miremur, inflammationem aliis fere rariorem subeunt.” Professor Hufeland makes the important remark, that after the most violent injuries of the head, accompanied with every symptom of inflammation, not a trace of it is discovered after death, whilst in other cases of injuries, where during life no symptom of inflammation of the brain occurred, yet this is found to have existed previous to death.‡

According to Burdach§ “the difficulty and uncertainty of the diagnosis and prognosis constitute a peculiarity of diseases of the brain, and indeed their existence is often difficult to discover. As the brain itself is concealed, its diseases also, during the period of their evolution, are almost always obscure.” (Sect. 510.) The *ratio symptomatum* also, in both diseases, is very different. The delirium in *encephalitis* is an early symptom, but in typhus it frequently does not appear until after the first week. Moreover, in the dissection of typhus cases the learned professor could detect no remarkable appearances in the brain or its membranes, though most of the patients were young, and previously healthy. In many instances the appearance of the brain was such as might have been looked for in a diseased state of the lungs, or any other complaint, having nothing in common with typhus.¶ Schneider, detailing nearly the same results, observes that dissections in such cases have been too negligently‡ and too partially conducted, because, whilst searching for the cause of disease in the brain, and where of course it *must* be found, the state of the abdominal and thoracic viscera, and of the spinal marrow, are quite overlooked. But the most careful examination, he adds, of nervous diseases, especially of typhus, are quite fruitless, for the most accurate

scrutiny shows little or no sensible change of structure. Joerg also, found neither inflammation nor effusion from the membranes, or in the cavities of the brain, which was rather in a state of collapse,—but a great degree of softness in the large nervous branches, particularly in the *medulla spinalis*.*

One more authority to prove that typhus does not depend on, or is usually connected with inflammation of the brain, I add from Pommer,† staff-surgeon in the army of Wurtemberg, whose dissections appear to have been conducted with uncommon accuracy, unbiased by theory, and with no other motive than an ardent curiosity to discover those morbid changes which probably occasioned death. The results of these dissections prove, that neither inflammation of the brain or nerves is met with in the generality of cases; and in those rare instances in which it occurs, it does not in the least differ from what is observed in other diseases, and seems rather to be effects than causes.‡ But though the brain and nerves, notwithstanding the apparent violence of their affection, were found on dissection to be free from any visible alteration, yet the contents of the thorax and abdomen were always observed to be in a morbid state, and required, usually, a greater degree of attention than the cerebral and nervous affections. The most frequent changes observed, occurred in the ileum, stomach, lungs, and bronchiæ; yet these organs, during the course of the fever, frequently showed no disturbance in their functions, nor were they accompanied with pain, though on examination they were found to be materially injured. This§ degree of insensibility appears to be a characteristic mark of typhus. In very rare instances was there found an alteration in the substance of the brain, but even then it was always attended with the usual appearances in the thorax and abdomen, and seemed to have no influence upon the common course of the disease. One viscus being found more affect-

* The dissections recorded by Reuss Wesen d. Exantheme, i. 152, *et seq.* are deserving of attention.

† Beitrage zur naheren Kenntniss des sporad. Typhus. Why authors distinguish between contagious and sporadic typhus is not very evident. Both diseases are essentially alike in their train of symptoms, their course, and termination. The only difference which can be alleged is, that, in the contagious typhus, we fancy we can trace the communication of contagion, but in the sporadic we are ignorant of its source. Berends Vorlesungen ueber Pr. A. W. von Sundelin, ii. p. 132, Note. Naumann Handbuch d. allg. Semiotik, p. 290.

‡ See Speranza, dell' abuso del salasso, in Annali di Medicina. Settemb. 1818.

§ Utut varia sint symptomata, princeps tamen est et palmarium stupor, inertia et segnitates omnium functionum. Sprengel, Institutiones Medicæ, Vol. iv. p. 115.

* Horn's Archiv. 1812. Sept. Octob. 296.

† De curand. Hom. Morbis, ii. 42. Ueber die Kriegsppest.

‡ Frank, de cur. Hom. Morbis, i. 109.

§ Vom Baust u. Leben des Gehirns.

¶ Schneider Med. Pract. Adversarien 3. lieferung,—contains the results of various examinations of the brain.

‡ For some judicious cautions on this subject, see Vetter Aphorismen aus der Patholog. Anatomie, p. 24.

ed than another, had produced during life no corresponding change in the succession of symptoms; so that whether the brain or heart, a rare occurrence, was found to suffer, the disease proceeded in the same course, as if the other viscera of the thorax and abdomen had undergone the changes peculiar to typhus, namely, being inflamed, softened, ulcerated, partially adhering, or even gangrenous. The *extispicia* in typhus, show the same results as in plague and yellow fever, and in some other acute nervous diseases, such as hydrophobia and tetanus, besides having many symptoms in common with each other. *Tetanus traumaticus*, in particular, occurs under circumstances where, without a wound, typhus would frequently show itself; therefore, hydrophobia and tetanus, in a natural order of diseases, ought to be ranked in the family of typhus.*

Furthermore, those nervous symptoms observed during life, and the appearances after death, bear a considerable analogy to the softening of the stomach, and the perforation of the intestines in children, described by Jaeger, and to the effects produced by corrosive and narcotic substances taken internally, and the specific animal poisons of murrain, (milzbrand,) hydrophobia, &c. The proximate cause of typhus, therefore, seems with more probability to depend upon those obscure inflammations of the thoracic or abdominal viscera, which frequently escape notice, than upon inflammation of the brain.

To the concurring testimony of many experienced practitioners respecting too great officiousness in our mode of practice, more especially in fever, it is unnecessary to add my own opinion; but the words of a venerable ornament to the profession are too strong to be omitted. Speaking of the *indifferent diseases* (indifferenten Krankheiten) which so wonderfully favour new systems; or, in other words, diseases which are not mortal, and in which it is quite indifferent whether this or that mode of practice be used, Hufeland concludes with the following remarks: "After thirty years' practice, I am now fully convinced, that of all the patients whom I treat, two-thirds would recover without my assistance or that of medicine, and even under the most opposite modes of treatment. The remaining third I divide again into three parts, of which two-thirds would remain alive without my care. Art only enables them to pass through the disease more easily and quickly, and without leaving sequelæ behind. The last third, therefore, or one-ninth of the whole only, might, without my active aid, become the prey of death; and here it is certainly not indifferent *how* the patient is treated; for that mode of cure only which is adapted to the disease and to the patient can preserve him; consequently, the *sanatus fuit* may strictly mean no more than that he did not die, or

perhaps that he fortunately escaped the mode of cure."*

If the identity of plague and typhus be still disputed, it may be allowed, perhaps, that the same mode of treatment is available in both. We have few detailed cases of plague before the time of Diemerbroek; for such was the terror inspired by this disease, that *φῆρυξ Μιθριδάτης* was the maxim acted upon by the physician as well as the patient.† Many of the histories related by that physician appear scarcely to differ from ordinary cases of typhus, and the recoveries are not few. The cases given by Orriæus are valuable, in being drawn up by a good observer, who had sufficient courage to face his enemy. Those of De Merten are less so, since we have authority to believe that they were not formed from personal observation. It is alleged that we have no cure for plague, neither have we for typhus; for when we fail on the first attack to arrest the disease by an emetic or cold affusion, we have no further power;—the fever must run a certain course, disturbed perhaps, but not impeded in its progress. A learned and accurate physician remarks, that in typhus, and the same may probably be said of plague, we have only two modes of cure, the hypothetical and the empirical.‡ How often the former has failed, the various systems of medicine bear ample testimony, and prove also, that typhus, as well as other contagious diseases, may be cured by the efforts of the vital powers alone, without the assistance of art or remedies. Indeed, such loads of medicines have been poured into the wretched sufferers from fever, that we have great reason to be sceptical as to their use.§ Some have been honest enough to acknow-

* Hufeland-Kriegspest, p. 97. For some very good hints upon this important subject, see a very curious little work, entitled, *Anagryca Medicis: Ægrotis vero grata et utilis collectio de manifestis quibusdam erroribus in usu medendi. Per Polidorum Seraphinum, Doctorem Medicum. Venetiis, 1708.*

† Professor Arejula advises, as the most secure and efficacious means of escaping contagion, "*irre pronto lejos, y volver tarde*," p. 339. Or, according to the following distich:

*Hæc tria tabificam tollunt adverbia pestem.
Mox, longe, tarde, cede, recede, redi.*

‡ In Ignominiam Medicorum profiteri cogor, omnem nostram febribus medendi methodum, rudem esse empiriam, philosophia vacuum, vacuum cognitione hominis physica. Neglectis legibus, ad quas corpora animalia immutantur, incerta abripimur hypothesis voragine. Reil, Mem. Clin. fasc. iv. 157.

§ Galen describes very exactly one of the busy bodies of his time, who, entering a sick room, thinks he does nothing unless he can make an attack at all points upon the wretched patient, and thus astonish the by-standers.—*Medicorum Græcorum Opera*, Vol. ix. p. 822. Ed. Kühn.

* Funk die Rückenmarks Entzündung, p. 62-75.

ledge this; Lange* observes, "aperte fatetur Cel. Albrich plures cum, quam sine medicina esse mortuos." Stoerk cured typhus, "cum sero lactis vinoso." Hildenbrand, in his own case, after a moderate bleeding and emetic, followed by a blister between the shoulders, trusted solely to lemonade and barley water.† Thus, he observes, like a small vessel in the midst of the ocean, without mast, sail, or rudder, he abandoned himself to his fate, having no further confidence in medicine or physicians.

Diemerbroeck‡ condemns all evacuations in the plague, and asserts, that all who lost blood died, of which he gives some very striking examples; and the same of purging, which made him averse to the use of purgatives, "bellum abdomini indicare." Chenot remarks, "alvus clausa præ fluente magis ægro conducit." The assertion of Schneider, that he never lost a typhus patient whose bowels were constipated, applies probably to the attack of the disease, and in contradistinction to the watery diarrhœa which so often occurs, usually denoting an infarcted state or irregular action of the bowels, and which can only be removed by repetition of gentle purgatives. The utility of the practice of Diemerbroeck, which consisted in giving sudorifics, light nourishing diet, and occasionally wine, is corroborated by Dr. Wolmar, more especially in his own case. (U. die Pest, p. 201.) Perspiration is an effort of nature to remove the irregular or increased action of the blood-vessels; and in countries said to be the cradle of plague, its importance is so far acknow-

ledged as to make it the subject of inquiry in the common forms of salutation. A friend of mine at Sierra Leone, a learned Swede, was so strongly impressed with the importance of a moist skin, that his usual salutation was, "how is your perspiration?" The dry state of the skin is a powerful cause of that restlessness or jactitation often so distressing in the fevers of hot climates. In such cases the feelings of the patient will be materially soothed by swinging in a hammoc.*

No evacuation has been so much abused as blood-letting, for the vessels have been drained as if their contents were excrementitious; and in practice, fever and bleeding have generally been considered as synonymous. During the late war on the continent, much diversity of opinion, not unmixed with acrimony, prevailed respecting the propriety of blood-letting in that destructive epidemic which so lately ravaged Germany. These were collected with great candour by Professor Hufeland, whose observations on the merits of the depleting system in the two epidemics of 1806-7, and 1812-13,† deserve attention.

The application of oil in plague, first published by Mr. Baldwin,‡ is very generally known, and has met with various success. The following additional testimony in its favour, containing a greater number of cases of inoculation than I have any where seen recorded, is not unworthy of notice. The Swedish consul at Tangier asserted, that if from four to eight ounces of olive oil be swallowed, at the time of infection from plague, a very profuse sweat is excited, which requires only to be kept up by diluents. The disease has been thus cured in a few hours. Occasionally, indeed, the oil proves emetic or purgative, but, for the most part, its first and most beneficial effect is perspiration. The success of this treatment was so evident, that even the

* "Quo simplicior medendi adparatus, eo tutior nobis videtur, et decorus magis." Hildenbrand Rat. medendi in schola pract. Vin-dobonensi, I. 257. A fondness for taking medicine denotes a disposition to hypochondriasis; and the old proverb justly says, "medice vivere, est misere vivere."

† See Wolmar, abh. u. die Pest, p. 54. "I have often observed," says this intelligent writer, "that the most dangerous case of plague left to the powers of nature, with only rice, jelly, and lemonade, more certainly and speedily recovered, than they who in slight attacks of the disease were overwhelmed with loads of medicine." The Hippocratic dogma, φρσις εξαρχει παντασιν, may not be strictly correct, but it is certainly deserving of our serious consideration. Upon this subject Hildenbrand expresses himself very strongly, page 180, Ueber den Typhus. Professor Reil gives a similar opinion with regard to the bad effects of laxatives when too active. He says, "of all evacuations that by stool can be longest dispensed with in fever, without harm to the patient. Costiveness is a common symptom during convalescence, produced by nature to avoid the waste of strength; and the physician who counteracts this effort is unworthy of his name."—Ueber die cur der Fieber, i. 384—390.

‡ De Peste, 151.

* Berends Vorlesungen, 185.

† For the results of this comparative view, I may refer to the 13th volume of this Journal, p. 385 and 387.

‡ Though not strictly connected with the present subject, it may not be improper to notice here the use of oil as a popular remedy in Russia for the recovery of frost-bitten parts, and said to be particularly successful. (Eton's Survey of the Turkish Empire.) Goose-grease made warm is smeared over the parts, and frequently repeated, so as not to allow them to become dry. By this simple remedy the blackness gradually decreases, until the circulation is fully restored. In gangrene from other causes it might also be tried. It probably acts by retaining the natural heat, and thus applying, constantly and regularly, a low, (but very gradually increasing) degree of stimulus, such as is best adapted to the deadened parts. Perhaps a more consistent fat, as melted suet, might act more effectually in retaining heat. In the first instance, the rubbing of the frosted parts with snow, &c. will probably not be neglected.

Moors were induced to adopt it; and two negroes who took oil abundantly on the first attack of plague recovered, though not an instance of a black person recovering from this disease had previously occurred. Dr. Sola, a Spanish physician, by giving oil internally, lost only twelve out of three hundred Jews whom he attended in plague.

The same physician, supposing probably, like Dr. Valli, that he had discovered an antidote to plague, used a mixture of the matter of bubo and carbuncle mixed with an equal quantity of oil, to inoculate fourteen persons. Twelve incisions were made in each patient; viz. three in each groin, and three in each axilla. Moreover, eight of these people had four incisions, each two inches long, and penetrating to the muscles, made by a bistoury, in other parts of the body. Into these wounds the virus of plague, mixed with oil, was injected by a syringe. Seven of the number inoculated did not experience the slightest affection, local or general; but the other seven, in a period of from four to twelve hours, were affected locally, viz. in three, there was a small bubo in the groin; in one, a carbuncle on the buttock; and in the other three, constitutional symptoms appeared with a trifling irritation about the punctures. These persons were shut up in separate rooms on the first appearance of disease, and made to use oil, externally and internally, without any other remedy. They all recovered, most of them within twenty-four hours, but some rather later. All, however, remained healthy afterwards, though daily exposed to plague. These cases, though curious, are by no means conclusive, for the matter of plague was probably not materially changed, but merely prevented by the oil from being applied to the wounds. Besides, we have no rational grounds for repeating the practice, as persons are liable to be repeatedly affected; and in the epidemic above mentioned, one person, not inoculated, had the plague three or four times in the space of fourteen months. Samoilowitz, a sanguine adviser of inoculation, tried it only in a very few instances at Moscow. Orraus condemns the practice, and probably De Mertens opposed it, which may have excited a degree of spleen in Samoilowitz, who declares that De Mertens saw only three incipient cases of plague,—an assertion, however, which is confirmed by Professor Baldinger on the credit of letters received from Moscow.

One remedy remains to be noticed which has not been so generally used in fevers as it deserves, I mean mercury.* It has been re-

marked by a number of writers, that when mercury, given in febrile complaints, typhus and remittents, excites ptyalism, though not given with that intent, the symptoms become in general milder, and the disease terminates favourably.

In an acute fever which raged epidemically at Lucca, Benvenuti exhibited mercury in Herculean doses. After blood-letting he commonly gave two scruples of calomel, which removed the diarrhoea (probably the watery stools,) and usually restored the patient to health. When this failed, bark was joined to it. One drachm of bark and a scruple of calomel were divided into four doses, and given during the day; and the same doses were repeated during three successive days, and generally with success. In alarming cases, to prevent the recurrence of the paroxysm, three drachms of bark* and one drachm of calomel were given for a dose. Benvenuti speaks of his practice as very successful, which he attributes chiefly to the mercury, though he does not notice salivation being produced. Among later writers, the testimony of Professor Hufeland in favour of the mercurial prac-

tagiosis epidemii, quibus interfuit inflammatio, utilissimum se præbuit calomel.—Autenrieth.

* In the remittent fever of warm climates mercury is a powerful and valuable adjunct to the Peruvian bark. The mixture is strongly recommended by Reil, particularly in small-pox, to promote the suppuration.—*Mem. Clin.* Vol. ii. Fasc. i. p. 112. Schwartze likewise used the compound mercurial plan in hepatitis complicated with malignant fever, “*ægotis admodum debilitatis, vel simul febre maligna laborantibus, mercurium, sed cum cortice nuptum, exhibuit.*”—Schwarte Diss. observat. quasdam medicas continens. Gott. 1779. Rambach Op. Citat. The use of mercury is perfectly compatible with the Peruvian bark, and still more advantage will be derived from the addition of a sudorific to the latter. From three to four drachms of sweet spirit of nitre in a mixture containing an ounce and a half or two ounces of bark, the whole to be taken in twenty-four hours, was very effectual in the remittent fever of Sierra Leone, in putting a stop to the recurrence of paroxysms, and in preserving a pleasant moisture on the skin. Professor Arejula (*Breve Descripcion de la Fiebre Amarilla padecida en Cadiz, &c. en 1800.*) used the bark with great success in the yellow fever at Cadiz, even when “*el semblante del enfermo permanece roxo: y el pulso con alguna valentia.*” His practice of using the bark early in the disease perfectly coincided with my practice at Sierra Leone. A flushed face, and pulse at 120, did not deter me from using the bark, being convinced that the patient's only safety consisted in an early, liberal, and steady use of that powerful remedy.—See also Schultze de *Mercur. usu in Febr. Quart. Halleri, Disputationes*, Vol. v. p. 112.

* Professor Reil remarks that mercury is one of the chief remedies in many kinds of typhus, and that it soothes the inordinate action of morbid organs without weakening their energy, (*Fieberlehre*, i. 565;) and adds, that it has long been used, especially in later times, as a remedy almost without exception in all inflammations of a typhoid character, and with the best effect. In aliis quoque con-

tice is highly important. In inflammatory affections of the head, lungs, liver, spleen, &c. he adds, calomel given in large doses produced the most decided advantage.

Schneider ranks* among the favourable symptoms of fever, the speedy excitement of salivation by mercury; and this I find to hold good in inflammations in general, as well as in typhus. Mercury speedily affecting the mouth proves the disease to be yielding, and the patient to be safe. Indeed, I feel convinced, from what I have experienced in cases of typhus, that moderate salivation, excited during the first week of the disease, and kept up during its course, at least during the state of stupor, will, humanly speaking, render the fever mild, and, by preventing *engorgement* in important viscera, divest it of all danger. Professor Autenrieth, one of the most strenuous and able advocates of the mercurial treatment of typhus, gives a similar testimony respecting the utility as well as safety of the practice. His ideas respecting the mode of action of mercury are not those commonly received.—“*Vis ejus primum adhibiti nec æstum auget, nec febrem, nec dolores, nil habet conspicue stimulans. . . . Nec in ipso vis importune debilitans cernitur, nisi forma illius sive methodo interne illum applicandi nauseam vomitumque et nimias dejectiones excitaveris.*” The increase of all the secretions seems to indicate a stimulant power in mercury, unless we suppose that it acts by merely removing the obstacle to secretion, as we see in a spring kept forcibly in a state of tension; if the power be suddenly removed, it reacts with greater vigour.† But, however we may account for its mode of operation, the fact appears to be indisputable, that increased vascular action ceases as soon as mercury produces its specific effects; the two actions are incompatible with each other.

Professor Autenrieth limits the use of calomel to the first week of typhus, alleging “*post septimum morbi diem calomelanos usus internus non amplius tutus visus est;*”‡

* Ueber den sporad. Typhus, 1826.

† Rambach *usus Mercurii in Morbis Inflammatoriis*, p. 38. “*Mercurius enim omnes sanat inflammationes, nulla sedis, characteris et causarum habita ratione.*”

‡ Rambach appears to have been equally fortunate with a small quantity of mercury. The preparation he used was the *mercurius solubilis* of Hahnemann, *oxidum hydrargyri cinereum* of Edinburgh. “*Subjectis robustis,*” he observes, “*ad decem vel duodecim grana, delicatulis vero quatuor vel sex in unico Nychthemero præbere protest.* Horis viginti quatuor elapsis plerumque magnum levamen ægroto jam allatum est, quid! interdum, ut ipse vidi, febris una cum dolore plane evanescit. *Usus Mercurii in Morb. Inflammatoriis,*” p. 30. In slight cases, and to delicate persons, Reil gives from eight to ten grains of calomel; to the more robust, from ten to four-

after which period he recommends mercurial frictions. From my own experience, however, I feel convinced that calomel is safe during every stage of typhus; and the nearer it approaches to its termination, the more necessary is its use, both in larger doses and more frequently repeated, owing to the torpid or paralytic state of the stomach, which too frequently occurs at the close of the disease. In extreme cases, and where little time remains, it will be of importance to join the two modes, and use external frictions also: even dressing the blistered parts with mercurial ointment will be found of advantage. The quantity of calomel used by the Professor is also much smaller than I should venture to rely upon. He says, “*Sex ad duodecim grana calomelis refractis dosibus in primo morbi stadio data sæpissime jam scopum attingere.*” As soon after the first attack as the disease was ascertained to be typhus, I have been accustomed to begin with the use of calomel, giving, in the mildest cases, not less than one scruple or half a drachm, in divided doses, during the twenty-four hours, and this quantity was continued until the mouth became sore. Great caution is requisite at this period. If we suspend the use of the remedy, and allow the mercurial affection to subside suddenly, all the previous good effects may be lost. On the contrary, if only an additional five grains of calomel be administered when salivation is *fully established*, as much mischief may be occasioned whether the salivation has been produced by five grains or by fifty.

After such testimony in its favour, it is won-

teen grains in twenty-four hours. *Allgemeine Fieberlehre*, i. 569.

In Richter's *Chirurg. Bibliothek*, v. 692, are some important remarks by Michaelis on the use of calomel.

The mercurial treatment of yellow fever is very concisely stated in the following quotation: “*Multi, hydrargyri ope copiose administrati horrendæ hujusce pestis, manus evaserunt, ipse superstes viribus hydrargyri felicibus testimonium perhibeo. Hydrargyri muriati mitis grana 270 quinque diebus labentibus, granis quinque qualibet hora sumptis, devoravi; perque illud temporis spatium viginti unguenti ex hydrargyro fortioris drachmæ femoribus, cruribus, abdomini, et brachiis, mihi affricatæ fuerunt, nullo neque in alvum, neque in glandulas salivæ inservientes, effectu edito, usque dum febris recesserat, quo quidem tempore saliva mihi leniter manare cæpit, quatuorquæ circiter septimanas, viribus paulatim recuperatis perstitit. Porro medicamentum tertio die omissum fuit; ita ut tota ista hydrargyri vis quatruiduo administrata fuisset.*”—Maclarty de Typho Regionum calidarum. Edinb. 1797, p. 44. Where the mercury fails of producing its effects within the first week, when given as above described, it may for the most part be considered as of no use to continue the medicine longer.

derful that mercury has not been resorted to, in every febrile case of importance, as commonly, and with as much confidence, as bark in intermittents. For a number of years I have been accustomed in all continued fevers, particularly typhus, to endeavour to excite ptyalism as early as possible, and when produced, to leave the course of the disease to nature, watching only lest the mercurial action should decline or suddenly cease. When doubts arise respecting the propriety or safety of blood-letting, then mercury offers itself as a valuable auxiliary.*

Schreiber,† professor at Petersburg, in his description of the plague in the Ukraine, was led by analogy, not perhaps strictly correct, to administer mercury in plague, and imagined he had discovered a specific for it. Seeing mercury useful in lues for the cure of bubos and ulcers, he pursued the same practice with advantage in plague also. For the use of mercury in this disease we have the testimony of Dr. Maclean, who gives, in my opinion, satisfactory proof that the treatment of plague is identical with that of typhus. Anxious to bring his opinions respecting contagion to the test of experience, Dr. M. immured himself in a pest-house, at Constantinople, where the privations which he suffered, and the obstacles intentionally opposed to his recovery, render it a matter of surprise that he escaped with life. Like the unfortunate Dr. Valli, in nearly similar circumstances, Dr. M. caught the plague soon after he shut himself up. Had he not fallen sick, his opponents might have said that he was not predisposed to the disease; but fortunately, this unmeaning excuse was not required, for he did not escape an attack, and cured himself under circumstances extremely adverse to recovery. On perusing his case, inserted in his valuable report to Sir Robert Liston, I was much surprised at the mildness of the symptoms detailed. During a residence of four years at Sierra Leone, I do not recollect an instance in

* John de Vigo appears to have recommended in lues venerea the internal use of a red precipitate of mercury, which he likewise used in plague. Sprengel *Gesch. d. Arzneik.* iii. 83. See also *Die Lehre von den Giften*, p. 67. Gottingen, 1827, by the learned author of the "*Origines Contagii*." Professor Bakker, "*Epidemia quæ anno 1826, Groningam adflixit*," did not wait for an apyrexia to begin with bark. When symptoms of congestion appeared in the brain, it became absolutely necessary to prevent the recurrence of the next paroxysm, which generally proved fatal by producing apoplexy, or coma and dysenteric purging. Sulphate of quinine was given from gr. ij.—ijj. and even to gr. vi. every hour, half hour, or even every fifteen minutes, which seldom failed to produce the desired effect.—*Zweiter Bericht des Hern. Dr. Fricke, ueber seine Reise*, &c. p. 30.

† Halleri, *Disputat. ad Morb. Hist. et Curationem*, V. vii. p. 134.

myself, or in any of my patients, where, after an attack of common remittent fever, we could muster up sufficient strength and fortitude to leave the bed and walk about the room, much less to promenade without doors. Dr. Maclean's practice in plague is what I should choose to adopt in similar circumstances, diminishing probably the quantity of opium, and increasing that of the mercury.

The operation of mercury in acute diseases in general is still obscure, probably from the small doses in which it is given in fever and inflammation. Two or three grains of calomel given at night can seldom produce much effect; the disease runs its course before the remedy can act. One hundred grains of calomel administered in twenty-four hours appears to be an alarming quantity;* but so long as it does not produce its specific effects on the system, it ought to be no more regarded than if only five grains had been used. When given for a short time in these large doses, it does much less injury to the constitution than when small doses, on the alterative plan, have been used for a length of time; for daily experience shows that a protracted use of mercury weakens considerably the action of the heart and arteries, renders the skin pale, and produces great emaciation. To obtain the desired effect in acute diseases, mercury must be given largely and quickly. We are not to be guided by the quantity of the remedy introduced, but by its effect upon the mouth.† I do not assert that mercury, in these large doses, is unattended with danger, but it is not more dangerous than large doses of digitalis, nor does it act with accumulated violence, as is said to be the case with arsenic. The physician must watch sedulously and anxiously the action of the mineral, so as to produce the effect upon the mouth, and to avoid all unnecessary subsequent distress. Of the two evils, however, I believe the lesser one to be the introduction of rather too much than too little. It is a curious fact, that where calomel is given to a large amount, (between 200 and 300 grains,) but owing to strong vascular action, or an insensible state of the system, without making any impression;—if at this period the use of the remedy be suspended, though for a few hours only, yet no subsequent effort is of the least avail to recover the lost ground, or to excite a mercurial action.

* It is well known that infants and children bear large doses of calomel. "*Marcus narrat se infantes vidisse, qui intra 48 horas, gr. ducenta quadraginta Merc. dulc. ingesserint.*" Otto de Act. Hydrargyri Medica, part ii. p. 63.

† In some cases of oppressed brain from external injury, where there was reason to suspect extravasation, I have seen calomel, largely and rapidly given, excite a sudden and prodigious flow of urine, followed by a return of consciousness, even before the mouth appeared to be affected. In such instances the mercury was suspended, and the patient recovered.

Whether chalk or mercury is administered in such instances, appears to be a matter of indifference. During this conflict, when the contending powers appear to be so nicely balanced, the loss of a small quantity of blood will frequently enable the mercury to prevail. This timidity of practice was once painfully instanced in a case of hydrocephalus.* A young lady, aged 15, had lain in a state of stupor for several days with every symptom of oppressed brain. Upwards of 300 grains of calomel had been taken internally, without disordering the stomach or bowels. The patient at length opened her eyes, seemed to distinguish objects, and spoke to one of her attendants. In consultation with a much respected friend, an excellent and experienced physician, in consequence of some factor of the breath, and the other symptoms denoting diminution of pressure on the brain, it was thought the mercurial erethism could not fail to be speedily produced, and therefore it was deemed most prudent to suspend the mercury. This was unfortunately done for a few hours, during which the stupor gradually increased, and no further efforts could avail to rouse the vital energy. The use of mercury is not only compatible with blood-letting, but it is also a powerful auxiliary; it renders its good effects more permanent, and very frequently dispenses with the necessity of a repetition. Indeed, it may be asserted, that mercury will agree with every plan of treatment which has been proposed for the cure of typhus, and of plague also, except that of everlasting purging. In answer to those who speak only of the bad effects of Mercury, Hecker replies, "omnes illas noxas haud metuendas esse, si medicus remedium adhibere intelligit."†

The first apparent effect of large doses of calomel is perceived in the stools, which become dark coloured, as if mixed with ink, and sometimes have a granulated appearance like boiled sago, occasioned by the quantity of coagulable lymph pured out from the villous coat of the intestines, now in a considerable state of erethism. When mercury is disposed to run off by the bowels, it may always be checked by adding to each dose ℞j. or ℥ss. of kino, and occasionally small doses of opium. When mercury acts as a purgative, its specific powers are lost, and it has no peculiar advantage in inflammation and typhus, over other cathartics. This is also the opinion of Professor Autenrieth, who says, "Calomel nimia dosi inditum et celerius purgans salutifera sua in diathesin inflammatoriam vi caret."‡ Calomel, however, does not always

excite purging, for in consequence of exciting so powerfully the action of the absorbents, costiveness is not unfrequently produced. The action of mercury seems to bear some resemblance to that of emetics and of blood-letting; which at once act on the vascular system by diminishing its energy, and at the same time powerfully stimulate the absorbents, producing a diminution of tumours, dropsical swellings, and the general increase of bulk in parts. The experiments of Magendie may, indeed, lead us to suppose that the action of the sanguiferous and absorbent systems are in opposition to each other, and that, by diminishing the energy of one set of the vessels, we proportionally increase that of the other.

It would be a curious revolution in medical opinion, if the use of mercury should be rejected for the cure of that disease for which it was originally introduced into practice. This would be indeed a most important and desirable improvement in our art, if sanctioned by proper experience.* But for these experiments, prudence ought to induce us to select only such subjects as are likely to remain a sufficient length of time under our immediate inspection. However these speculations may succeed, we have reason to believe that in mercury we possess a safe and powerful remedy to arrest the progress of acute diseases, and in many instances even where all human interference appears to be of no avail. To my friend and former pupil, Dr. John Aitkin of Edinburgh, I may refer for his testimony in favour of large doses of calomel rapidly administered in some very serious cases of enteritis, hernia, hydrocephalus from internal causes and from external violence, which he witnessed, and some of which he himself treated whilst under my care.

In enteritis and strangulated hernia,† two cognate diseases, I have found calomel in large doses to possess powers equal to the Peruvian bark in the cure of intermittents. In strangulated hernia, ten grains of calomel repeated every hour, or hour and a half, so that about one hundred and twenty grains may be administered in from fourteen to eighteen hours, will frequently occasion the protruded part to recede spontaneously, or at least with the slightest touch. When the vomiting and pain are considerable, half a grain or a grain of pure opium, occasionally repeated, will be found extremely useful. In upwards of twelve cases, this method completely succeeded with me; in one instance it appeared to fail. A

* "Singularis illius utilitatis, quam calomel in Hydrocephalo acuto, contagio excepto, morbo typhi perquam simili, præstat, eadem causa est."—Autenrieth.

† Otto de Actione Hydrargyri Medica, p. 145.

‡ Johnes de utilitate Hydrarg. in Febre Typhode, p. 43.

* Oppenheim die Behandlung der Lustseuche ohne Quecksilber. Hamburg, 1827, contains a list of the various surrogates which have been used to supersede the use of mercury; to which is appended a brief notice of the *Starving*, or *Hunger-cure*, a practice noticed very early, but which has been only partially adopted; though often with success.

† See an important little pamphlet upon this subject by Dr. Peart. Printed for Miller, London, 1802.

sailor, who had previously been subject to bubonocoele, but which had always been returned, though imperfectly, had laboured nearly a week under all the symptoms of strangulated hernia. Mercury was exhibited without occasioning a retrocession of the tumour, which was small. The operation, which had hitherto been rejected with singular obstinacy, was now performed. The intestine adhered firmly to the mouth of the sac, which occasioned some delay, but the operation was perfectly successful, and the patient speedily recovered his health. This case is in some degree satisfactory, by showing that the liberal use of mercury presents no obstacle to the success of the operation; and where the surgeon would prefer the operation, but is prevented by the timidity of the patient, it further shows that mercury may be used in the intermediate time, although he might entertain no further hopes from its exhibition than to delay the fatal termination.

From the Nouvelle Bibliotheque Medicale.

SUR LES ACCIDENS GRAVES QUE PEUT DETERMINER LE SEJOUR, DANS LE TISSU CELLULAIRE PROFOND DU COU, DE FRAGMENTS D'OS AVALES. Extracted from a Memoir read to the Academie Royale de Medecine, by Doctor GIBERT, Agrégé à la Faculté de Paris.

CASE 1.—A young man, æt. 24, inadvertently swallowed a fragment of bone, which gave rise to very acute pain, in traversing the pharynx. The bone appeared to him to have lodged at the upper part of the œsophagus, and some rude and ill-directed efforts were made, by means of a piece of whalebone, armed with a sponge, to force it into the stomach; a few minutes afterwards he swallowed without difficulty, though with some degree of pain, a piece of bread, and thus ascertained the removal of the obstruction. It will be seen hereafter, that the foreign body was indeed removed from the œsophagus, but that instead of descending into the stomach, it had perforated the parietes of the tube, and had passed entirely into the surrounding cellular tissue. The pain which the patient had felt in the first instance, still continued in a fixed point, on the left side of the neck, a little behind and towards the inferior part of the larynx. The next morning, although in pain, and unable to swallow without difficulty, he was still capable of walking about and attending to his various avocations: for some reason or other, he was induced to take an emetic, which only had the effect of fatiguing him, and aggravating his sufferings. The third day, Dr. Duportail was called in consultation. At this period there was an extremely acute pain in the spot above mentioned, which became insupportable on pressure, and began to extend along the œsophagus; deglutition was entirely prevented, and when the patient

attempted to force down a few drops of liquid, a burning and lacerating pain in the part where the bone had been arrested, compelled him instantly to suspend his efforts. There was a constant discharge of saliva from the mouth, a high degree of fever supervened, with a full, hard, frequent and vibrating pulse, headach, sleeplessness, &c.

These symptoms were supposed to arise from inflammation of the œsophagus, excited by the passage of the bone, and especially by the attempts made to force it into the stomach, although some doubts were entertained whether the bone had not perforated the tube, and passed into the cellular tissue of the neck; no appreciable tumefaction, however, could be detected in the seat of pain.

The patient was twice bled very freely, and thirty leeches were applied along the œsophagus; emollient cataplasms were directed to the neck, sinapisms to the legs, the warm bath, enemata, and some spoonfuls of an anodyne mixture with sirup of diacodium, were administered. This energetic treatment was productive of very little melioration. On the fifth day, deglutition was less painful, the patient expectorated some thick sputa; the fever continued high, and fears were now entertained of the formation of an abscess. An exacerbation occurred on the seventh day, and deglutition again became impossible; while in the bath, he felt a call to the garde-robe, (no alvine evacuation had yet been procured,) fainted on being placed upon the basin, and afterwards threw up by a slight effort of vomiting, a little sanguinolent and purulent matter, and passed successively, three liquid stools, in which it was thought some globules of pus could be recognised. The patient remained in a state of extreme weakness, and could not see the persons around him. In the afternoon, the pain in the neck suddenly ceased, and he drank eagerly and with great facility. In the evening, there was a perfect calm; the countenance was pallid, pulse frequent and soft; he had recovered his strength however, and vision was restored. There was no pain in the œsophagus unless pressure were made, and it was again exactly limited to its primitive seat. The patient complained of feeling weak, and requested to leave his bed, which he was permitted to do. There was something of an *ataxic* character in the expression of his countenance, and in his short and hoarse voice; his intellect, however, was perfectly sound, except that he then stated that he felt perfectly well. This state of things continued through the next day; the night following he was very restless, he rose from his bed, walked about his chamber, called for drink incessantly, and swallowed without the slightest difficulty.

On the night of the ninth, a violent rigour supervened, followed by heat without perspiration; his respiration was difficult and hurried. At five in the afternoon, another very violent paroxysm occurred, with confusion of intellect, dimness of vision, and difficult respiration, without any local uneasiness.

M. Duportail prescribed twelve leeches to the anus, sinapisms to the lower extremities, an antispasmodic mixture with Hoffman's anodyne liquor, and pills of the sulphate of quinine, directing the latter to be given during the remissions; compresses wet in cold vinegar, were applied to the forehead.

During the former part of the night, the patient was much agitated; some pain was felt in the left side of the neck; pressure upon this part excited pain, and it was thought that some deep seated œdema and tumefaction could be detected, but this sensation was not very distinct. A state of exhaustion and drowsiness succeeded the agitation; the pulse lost a little of its vivacity and quickness. About 3½ A. M. a slight rigour commenced, and being apprehensive of another paroxysm still more severe than the preceding, six grains of quinine were exhibited in the space of a quarter of an hour; the rigour hardly lasted twenty minutes, it was followed by some febrile excitement, but much less than before.

At 7 o'clock P. M., M. Duportail saw the patient again; he was calm; countenance pale, emaciated, and sunken; he had a loose stool during the night; he did not complain; respiration was short and frequent; pulse 138, and easily compressible; the heat of the surface moderate; the paroxysm appeared about to terminate. M. Duportail adopting the idea that the patient was labouring under a malignant remittent fever, strongly insisted upon the employment of the sulphate of quinine; and although his opinion differed from that of Dr. Gibert, who considered the febrile symptoms as dependent upon a local affection, there was little diversity of sentiment as to the propriety of the remedy. A blister was also applied to the back of the neck, and sometime after, two others to the legs; the sulphate of quinine was freely given during this and the following day.

The debility of the patient made rapid progress, and he died on the morning of the 13th day, in full possession of his intellectual faculties.

Autopsis, twenty-five hours after death.—Externally, a slight degree of lividity, with some degree of puffiness and infiltration were observed on the left side of the neck. The pharynx and œsophagus were perfectly sound, but at the junction of these two parts, there was observed upon the mucous membrane a very minute depressed point, without any trace of perforation. Externally, beneath the left inferior corner of the thyroid cartilage, under the deep layer of the anterior muscles of the neck, behind and below the left thyroid body, there was a black and gangrenous foyer, about two inches in diameter, containing a dark coloured and turbid liquid, partly infiltrated into the disorganized cellular tissue, and partly diffused and collected in the centre of the cavity, in which was found the fragment of bone which had occasioned death; it was about eighteen lines in length, pointed, and about the size of a large pin.

The stomach presented a dark-red colour,

both on the external and internal surface of its great extremity; a circumstance attributed by Dr. Gibert to the action of the quinine, which, toward the close of life, had excited a sense of heat in the stomach, and had even been rejected by vomiting.

Notwithstanding that in this case the bone was deeply seated, and in the neighbourhood of important parts, the injury of which would have been attended with the most serious consequences, it is evident that, if its presence had been suspected, it would have been the duty of the physician, to have cut down upon it, and attempted its removal; every thing, however, seemed to confirm the opinion of the patient himself, that the bone had descended into the stomach; and the absence of local swelling led to the belief, at a later period, that if an abscess had formed, it must have been at the posterior part of the pharynx.

After some further remarks, Dr. Gibert proceeds to detail the second case, communicated by Dr. Corby.

A woman, æt. 50 years, was admitted into the Hôtel Dieu, with all the symptoms of a deep seated inflammation of the neck: a sense of fulness, tumefaction, and painful tension occupied this region, which appeared to be in a state of general and uniform turgescence, without any very apparent tumour or local projection in any point. Deglutition was almost entirely impossible; respiration difficult; the face injected, and slightly violaceous; the neck, though generally painful on pressure, presented externally no inflammatory redness; there was a slight degree of fever.

Leeches were twice freely applied, but had no influence in arresting the progress of the disease; respiration became more difficult; the pulse small and feeble, &c.

The patient descended from the medical ward into the amphitheatre, where the surgical consultations are held, and presented herself to M. Dupuytren, who having deemed it inexpedient to do any thing further than had been done, she returned to her bed, and died in the course of the same day, apparently suffocated.

The body was opened the next day. The operator had scarcely begun to turn down the layer formed by the anterior part of the neck, separated above from the lower jaw, when he observed, presenting through a perforation in the inferior and posterior part of the pharynx, an angular fragment of bone, about the size of a pea; in the cellular tissue, behind and external to the pharynx, there was a small and ill-defined abscess; the soft parts of the neck presented indications of sanguineous congestion; a small quantity of pus was found in the stomach. In this case, it is probable that by strongly depressing the tongue, the bone might have been seen, and removed from its situation by means of the curved forceps, but the cause of the disease was entirely unknown till revealed by dissection.

It is worthy of notice, that in both the preceding cases, the foreign body perforated the pharynx towards its junction with the œso-

phagus, which may be explained by the sudden change which occurs at this part in the form and diameter of the canal.

It frequently happens that substances which have been swallowed, are arrested in the rectum, which they perforate, and give rise to suppuration, terminating eventually in fistula; of which the following is an example.

A man, æt. 60, of a robust constitution, and rather corpulent, having never had hemorrhoids, was suddenly attacked while at stool with acute pain in the lower part of the rectum; the pain continued, deprived the patient of rest the following night, and was aggravated by every attempt to pass the urine. On careful examination, a slight degree of redness and increased sensibility of the mucous membrane about the termination of the rectum, was all that could be discovered. Twelve leeches to the anus, the hip bath, and an emollient enema were directed. Some relief followed these measures, but in the evening of the succeeding day, there was an aggravation of the pain; it had greatly increased on the fifth, and there was considerable difficulty in micturition; the patient had an alvine evacuation without pain. A slight degree of redness and engorgement was observed on the left buttock near the anus; on introducing the finger into the rectum, this intestine was found very sensible to the touch, and the induration of the inflamed cellular membrane on its left side could readily be perceived. Thirty leeches were directed, an emollient cataplasm, hip baths, &c.

The abscess opened externally the following night, and a great quantity of very fetid pus was discharged. The patient felt himself much relieved, slept, and complained only of the difficulty in passing his water. The external swelling had disappeared, and there remained at the distance of an inch and a half from the anus, an opening, as if made by a lancet, giving exit to a reddish matter.

M. Dupuytren, who now saw the patient, suspected that the abscess might be owing to a perforation of the rectum by some foreign body, such as a fragment of bone, &c.

The succeeding days, after a brief mitigation of the symptoms, there was a recurrence of the pain, and another abscess formed in the perineum in front of the anus, which opened almost immediately into the rectum; notwithstanding which, an incision was made into it externally, and pus mixed with fecal matter was discharged through the opening. The orifice of the abscess last mentioned, was readily detected a few lines above the anus, by the finger introduced into the rectum, but the communication of the other with the intestine was not so evident; the probe introduced into it passed up to a great height, and then appeared to be arrested by some obstacle; M. Dupuytren supposed it to be the foreign body, the existence of which he had suspected.

The operation of fistula in ano was performed after the lapse of a few days, and both sinuses were laid open. On removing the dressings on the third day, a fish bone was

discharged from the first fistula, of such size that the patient could hardly comprehend how he could have swallowed it.

From the London Medical Gazette.

ESSAYS ON SYPHILIS. By JOHN BACOT, lately Surgeon to the First Regiment of Guards.

(Continued from p. 194.)

RHEUMATISM CONNECTED WITH GONORRHOEA.

The next affection which I shall mention as a consequence of gonorrhœa is rheumatism; that is, pain and swelling of the knees and ankles especially. This is the most usual form which the complaint assumes, though in a few very rare instances the symptoms have been more general, the pain more acute, and the general disturbance of the system more severe. These diseases are scarcely mentioned by any writer upon venereal complaints, at which Swediaur expresses his astonishment; though, in fact, what he has said upon this subject is very unsatisfactory, and proves that it was but imperfectly known even to him: it has not, however, escaped the penetration of Mr. Brodie. Here, again, we are told that a suppression of the gonorrhœal discharge is the cause of the attack; but in the cases which have fallen under my own observation, this must be understood in a very qualified sense. I think it may be fairly said, that neither the affection of the joints, nor the more general rheumatism, come on until the gonorrhœa is upon the decline; and occasionally it has appeared to have succeeded to a sudden cessation of the discharge, following the use of cubebæ or copaiba, in large doses; so that those medicines have not escaped the imputation of having been the remote causes of the attack. The subject is too little understood, and the examples of the disease too unfrequent, to permit me to indulge in theoretical views. All I can with confidence assert is, that an attack of pain, and enlargement of the joints of the knees and ankles, sometimes take place suddenly towards the termination of a gonorrhœa. The subjects of these attacks are usually young men of strumous habits, of florid complexions, and not particularly robust. There is often much puffiness and tenderness of the ankles, especially towards evening; the skin is not externally red; and the pain is not very much augmented by gentle pressure; the pulse is usually more frequent than in a state of health; the stomach sympathizes also in the attack; the appetite declines, or fails altogether; and now and then it happens that all these symptoms are suddenly relieved by an eruption of papulæ, in clusters; or sometimes by pustules, in very minute patches. When these appear not only are the pains relieved, but the constitutional symptoms also yield; and the eruption, after some days, sometimes, indeed, not for some weeks, grows paler, and a desquamation succeeds, leaving a slightly discoloured state of

the skin, which, however, gradually wears itself out. This is the progress of the symptoms when left to themselves; but medicine can do much to relieve them, and to facilitate and hasten their course. In the first attack of pain and swelling of the joints, rest, and confinement to bed, together with the employment of local or general blood-letting, will be necessary; though the use of the lancet is, I think, upon the whole, much to be preferred to the application of leeches; but the bleeding should not be carried to any extent. This should be accompanied with the exhibition of saline antimonial medicines, combined with the compound powder of ipecacuanha, in doses of five or six grains, with an interval of four or five hours between each; or what sometimes answers still better, the *vinum colchici*, in such doses as will produce some effect upon the stomach and bowels. For this purpose, one drachm of the wine may be given as a single dose, mixed with magnesia and camphorated mixture, and a very sudden remission of the pain is frequently the consequence; or, if preferred, the same remedy may be given in more divided doses, from twenty to twenty-five minims every five or six hours. When, by either or all of these means, the pains are relieved, and the pulse returns to its healthy standard, frictions to the limbs, either of camphorated spirits, or with the flesh brush, and the internal use of the compound decoction of sarsaparilla, will tend to restore the tone and vigour of the system. If the joints continue swollen and stiff, the warm salt-water bath may be used three times in the week, and a moderate share of exercise permitted, provided the weather admits of it.

In those cases where the affection of the joints is succeeded by eruptions of the papular or pustular forms, (sometimes, indeed, they are mingled together in the same individual,) in addition to the sarsaparilla, small alterative doses of mercury may be conjoined. Of these, the best form is, I believe, the compound calomel pill of the present pharmacopœia. Under its judicious and careful use the eruptions will fade away much more quickly, and the strength and health will be more speedily restored, than by the mere vegetable remedy alone. It is not necessary, even in these cases, to carry the exhibition of mercury to the extent of salivation, though a slight tenderness of the gums is not by any means objectionable. One caution, however, is, I think, absolutely necessary; that is, never to persevere in the use of the mercury if it deranges the bowels, or appears to excite any disturbance in the system, denoted by acceleration of the pulse, restlessness, or disturbed sleep at night. Such is the plan of treatment which I should adopt in these affections; but when we have to encounter the more rare, but at the same time more formidable cases of general rheumatism, the mode of treatment must be more assimilated to that which we should practise in cases unconnected with any gonorrhœal origin; that is, bleeding may occa-

sionally be necessary. Antimonials or colchicum, with opium and the warm-bath, will be indicated according to the extent and severity of the symptoms; though in the convalescent state the sea-air and bathing are equally appropriate, and more necessary even than in the former instances.

Among the medicines most efficacious in removing the chronic stage of this disease, bark and guaicum hold the first rank. The ammoniated tincture of guaicum is, indeed, in these instances, a most invaluable remedy, given in doses of from forty to sixty drops, in combination with the decoction of bark, two or three times in the day.

I have once or twice found these rheumatic complaints dependent upon an irritable state of the urethra, the consequence of a long continued or repeated discharge; and in these cases the symptoms are rather remarkable for their obstinacy than for their violence. Here a painful condition of the feet is often one of the most distressing symptoms, which is sometimes a little better, at others again aggravated, without any apparent reason. In these patients the cure cannot be expected until, by the employment of bougies, the urethra is restored to a healthy state. All that I have just said relative to rheumatism accompanying or following gonorrhœa, is the result of my own observation and experience; but it would be unjust not to allude to the remarks which Mr. Brodie has presented to us upon this obscure subject in his valuable treatise on Diseases of the Joints. Of this affection he has published several cases, all confirming the principal points I have adverted to: they prove that these rheumatic symptoms occasionally come on during the continuance of the gonorrhœa; that it is sometimes accompanied with, or alternates with conjunctival inflammation of the eye; that the complaint now and then is met with merely in conjunction with irritable urethra. In one case the muscles of the abdomen partook of the attack, and there was an occasional impediment to breathing, which seemed to arise from a similar affection of the diaphragm.

Mr. Brodie comments very forcibly upon the severity and tediousness of these symptoms, together with the strong tendency to relapse, that always exists. In the treatment, with the exception of the colchicum, he is disposed to think that few medicines exert much influence over the complaint, although the method of cure which he advocates approaches as nearly as possible to that which I have described. Whoever wishes to read these interesting cases may find them at page 58 of the last edition of Mr. Brodie's work. In the last case related by that gentleman there is a circumstance mentioned which is quite consonant to my experience; that is, the exacerbation of the pain by the application of blisters to the swollen joint. I have not observed them to be followed by any beneficial result, and therefore I have not recommended their employment. In two cases it has occurred to me to see ulcerations of the soft palate,

leading to a diseased condition of the palate bone, consecutive upon a virulent gonorrhœa. The disease had been in both instances of the most violent and intractable nature: the ulceration of the palate took place about two months from the apparent cure of the discharge. It was preceded by an inflammatory blush of the whole palatine arch; a small pimple formed and burst just where the *velum pendulum palati* begins; this spread rapidly until the ulceration assumed the size of a silver three-pence: and continued then with a sloughy bottom, and without much pain, but indisposed to heal by all the simple means employed for that purpose. The patient was of a strumous habit and very irritable constitution. The first appearance of the disease was accompanied with much fever, which gave way to active purging and antimonial medicine. Sarsaparilla was afterwards freely employed; but it was not until mercury was conjoined that a cure was effected. In one case the course appeared not to have been carried to a sufficient extent: the ulceration broke out again; disease of the superior maxillary bone ensued; exfoliation took place; and the patient finally recovered after a long course of mercury.

These cases are, I conceive, highly interesting, because they are certainly proofs of affections of the throat and spongy bones, directly arising from gonorrhœa, and gonorrhœa only. They are rare, perhaps very rare occurrences, not sufficiently common to cause a revolution in our practice, but sufficiently important to call our attention to any similar affection which we must not reject as syphilitic, and withhold the exhibition of mercury, merely because we can only trace gonorrhœa as a primary symptom. We must recollect how much is depending upon our coming to a right decision upon a question of such importance to the comfort and welfare of our patient, and not obstinately refuse a remedy which, judiciously managed, will undoubtedly lead to a successful issue, because the phenomena are not exactly in accordance with our pre-conceived notions. This is a subject to which my attention has lately been particularly called, and it stands in need of farther elucidation.

There is only one more presumed consequence of gonorrhœa which I have to speak of. Of this I have never met with an instance. It is, however, mentioned by several authors, and among the rest Swediaur, who calls it *cophosis*, or deafness, arising from the suppression of a gonorrhœa, of which he says he saw one case in the course of his practice. This, we are told, is sometimes attended by a puriform discharge from the ears, and that both these symptoms are remedied by a course of mercury. It was necessary for me to mention these observations, but I cannot confirm them from my own experience.

PRIMARY SYMPTOMS OF SYPHILIS.

Having now disposed of the subject of gonorrhœa, together with its real and presumed consequences, I come to the description of

the primary symptoms of syphilis; that is, of *chancre* and *bubo*. The former term has for many years held an undisputed reign, but its meaning has become, in the course of time, so restricted, that we have now almost discarded it from our vocabulary, and are contented to call the primary affections on the parts of generation by the more familiar term of ulcerations; adopting a distinctive epithet to them, such as is afforded either by their appearance or situation. I do not object to this change; the word *chancre* is both unscientific in its origin and useless in its application, and never has been found to answer the purposes of description without much circumlocution. It implies, in fact, a cancerous sore, and has been enlisted, if I may so call it, into the service, merely on account of the supposed corrosive and intractable nature of venereal ulceration. It is a word of great antiquity, however, and was made use of to express certain unhealthy and obstinate sores on the sexual organs before the invasion of syphilis. Astruc treats of venereal ulcers under this name, but his very description proves that he did not restrict his meaning within such narrow bounds as modern authors have done, but that he admitted several descriptions of sore under this one appellation. In the first place, remark his definition of a chancre: "*sunt ulcera exigua (he says,) superficialia, parum cava, rotunda, callosa, contumacia, quæ à venereo contagio, in pudendis succrescunt et repullulant;*" and then, a little farther on, he adds, that they differ in their situation, in number, and in quality; sometimes not being hard or callous; being more benign; affording good pus; having neither inflamed nor tumid edges; sometimes having ragged and irregular edges, with a livid bottom, &c. &c. So that here he at once overturns his former definition by admitting these various shades and distinctions: and in his diagnosis he especially relies upon the contumacious nature of the venereal sore or chancre. I by no means blame Astruc for marking these differences; they afford abundant proof of the accuracy and depth of knowledge which he possessed; but I do lament that he should have thought fit to attempt the definition of a sore which necessarily varies its appearances so much from the different situations in which it is placed, from peculiarities in the habit of the person receiving the infection, and even from the method of treatment adopted in the first instance.

The same observations apply to Mr. Hunter's definition, which for many years was universally believed and adopted; that is, theoretically, for it never was adopted in practice even by Mr. Hunter himself: and those who read his cases will soon discover that practically he did not draw his distinctions quite so fine, but was contented to have recourse to mercurial treatment in many obstinate ulcerations, not exactly or strictly comprised within the definition of sores having a hard edge and base; in fact, he abandons his own definition almost as soon as he has made

it, for within the space of a few paragraphs he observes, that venereal ulcers have commonly one character, which, however, is not entirely peculiar to them, for many sores that have no disposition to heal have so far the same character.

After all this pretence of accuracy of discrimination what does the learned Astruc say? Why, that if the patient wishes to conceal the origin of the complaint, as (he remarks) is very common with widows, or even with men who wish to preserve a reputation for chastity, you must draw your diagnosis, not from appearances alone. Thus, if in the female you find ulcers on the clitoris, on the caruncula myrtiformis, or the nymphæ—if they be numerous, clustered together, malignant, and run their course quickly—it is *probable* that they arise from a recent connexion; and the same remarks apply to sores on the prepuce, and especially about the frænum in men. It must be recollected, that although the parts of generation are the usual seats of syphilitic sores, that they may occur in other situations; a common cut on the finger may be infected; the lip and the tongue may also possibly receive the poison. A venereal ulcer of the finger I have seen myself, the origin of which was for a long time denied by the patient and doubted by the surgeon; but its character was afterwards ascertained, and a mild administration of mercury produced a speedy and permanent cure. It would be contrary to all I have before urged if I wished it to be implied that this latter circumstance alone were a proof of the sore having been syphilitic; on the contrary it was the history of the case, and that alone, which led to the treatment. Independently, then, of these situations, the venereal virus may be applied to the organs of generation in man under three different circumstances; it may be applied to a wound, to a non-secreting surface, such as the cutis of the prepuce, or penis itself; or to a secretory surface, as the corona glandis, or glans. Again, we may suppose that the virus is received in every differing state or grade of health, and constitutional integrity; it may have been neglected, or aggravated by the ill conduct of the patient; it may have been permitted to run its course not only unmolested or uninterfered with, but it may have been even thrown out of its natural and usual train by ill treatment, or applications little adapted to its then condition; and, finally, it may be presented first to the inspection of the surgeon under several different stages of its progress. When I have enumerated these varying conditions under which a syphilitic ulcer may be met with, can it be any longer necessary to express astonishment if no definite description can include all the forms and species of these ulcerations; and that, with the exception of one circumstance only, an inaptitude to heal, they may present every variety of appearance which a breach of surface may be supposed to assume?

The next general observation connected with syphilitic sores is the time that may

elapse between the application of the poison and the breaking out of the disease. Authors differ much in their accounts upon this point, and it is not wonderful that such should be the case, since we must rely upon the history which the patient chooses to give; and in no other disease are we so often exposed to the chance of imposition. Generally speaking, there will be a considerable difference in the activity of the poison, according as it has been applied to the cutis, to the cuticle, or to the glans itself. Ulceration will take place earlier in the latter situation, and latest of all on the skin of the penis. There are some few remarkable cases related wherein the poison appears to have been inactive for three or four weeks. Mr. Hunter relates two instances of a still more tardy infection: in one case seven weeks elapsed before the chancre made its appearance; in the other, two months. Granting the histories given by these patients to have been true, it is possible that some deranged condition of the general health may have delayed the development of the local disease; in one, the sore appears to have been excited by very great bodily exertion and fatigue. But most commonly it begins to exert its power within a week or ten days after the connexion. The first appearance of a syphilitic ulcer, according to the united testimony of all writers, both ancient and modern, is in the form of a pimple or small pustule, whenever it has been traced to its commencement; which, as I have elsewhere said, appears to me to be a strong argument for the unity of the syphilitic poison. That some sores occasionally commence by a gangrenous spot, or that sloughing takes place very early, is no proof to the contrary, because there can be no reason given why common inflammation, gangrene, or sloughing, should not, under certain conditions of the system, take place in this as well as in any other local disease; and here, as in other instances, the most usual effect is that of superseding the original poison, as will be more fully explained presently. It is singular that these most important considerations should only have been loosely alluded to by Mr. Hunter; that he has, in his method of treatment, advocated only one line of conduct as applicable to venereal ulceration, since he could not but be aware that, in these very different conditions, the use of mercury could not be beneficially resorted to with the same degree of confidence, or even of safety. In fact, no man, in the treatment of particular cases, varied and modified his means of cure more than Mr. Hunter; and his Treatise is chiefly defective, as a practical work, inasmuch as it affords no guide to the student as to when, or under what circumstances, mercury should be administered, or when it should be withheld. Such are the general observations which I have thought it necessary to make prior to my entering into a detailed description of particular forms of ulceration.

It may be generally admitted that hardness is an accompanying mark of all syphilitic sores; that they also usually put on a figure

approaching to the circular, and are not necessarily attended with much surrounding inflammation and pain, though they are liable to be attacked by it, and then their sensibility becomes greatly augmented: but there are also a few diseased appearances to which the parts of generation are liable, which it may be as well to endeavour to distinguish from the different forms of syphilitic ulcerations. These are, chiefly, excoriations, herpes either of the internal prepuce or of the cutis itself, common phlegmonous boils, or small aphthous-looking ulcerations occurring in clusters; and most of these may come on independently of sexual intercourse, though it is obvious that few men are able positively to assert that this is the case; and hence arises the alarm which any breach of surface on these parts immediately occasions. Excoriations most frequently take place in those persons who have the prepuce long, and where cleanliness is not strictly observed, and the natural discharge from the parts is in great quantity. I have seen these appearances produced without any suspicion of sexual connexion. In this case the excoriation is often extensive, the discharge profuse, but there is no accompanying inflammation; the part looks as if the cuticle were merely stripped off, and common cleanliness, or at most a wash with a few grains of the sulphate of zinc in water, rapidly gets rid of the discharge, and the excoriation heals. It often happens that in these cases the glans cannot be denuded for a day or two; but by the touch it may easily be ascertained that no ulcers exist within the prepuce, and the injection of the same lotion between it and the glans will speedily confirm this opinion, by enabling the patient to denude that part. There are some men who seldom or ever have a connexion without producing a slight breach of surface. Sometimes this has the appearance of a patch of a grayish colour, without depth or hardness surrounding it, often yielding little or no discharge, at others exuding some moisture; occasionally the excoriation assumes the form of a slight fissure or crack; but in all these cases these appearances are observed either directly or within a few hours after connexion; they are apt to remain in an indolent condition for some days, but seldom show any disposition to spread, unless interfered with by the application of irritating substances. I have found the powdered lapis calaminaris, or a very weak solution of the liq. plumbi acetatis, agree with them best: they heal under this mild management usually with facility, and always without leaving any scar or evidence of their previous existence. In all these cases it will be necessary to restrict the patient somewhat from his usual pleasures, to direct some change of diet, and perhaps to administer a cathartic. Here, then, the early appearance of the sore, its want of depth, (that is, the absence of the ulcerative process) will enable us to form a judgment of the nature of the complaint, and to pronounce at once upon the propriety and safety of treating it by local means; though it

does not unfrequently happen that the perfect restoration of the part will occupy a week or ten days to accomplish. Another description of sore is sometimes met with more particularly round the corona glandis, that is, very minute aphthous-looking points, which are sometimes in clusters, and at others extend around the whole of the glans; some will heal whilst fresh ones break out; they are totally devoid of pain, and are best got rid of by the application of the lunar caustic, or a wash composed of the acetate or sulphate of copper in proper proportions. I have known these appearances last a considerable time, but they are not certainly followed by any constitutional affection, and may be trusted entirely to local applications of the stimulating kind. Of herpes preputialis we have an admirable account in Dr. Bateman's Synopsis of Cutaneous Diseases. Herpes may attack the external skin, the inner surface of the prepuce, or the glans itself: in either case it is not difficult to distinguish. It commences with a troublesome itching of the part. On examination, a red patch will be perceived, and shortly after, minute vesicles appear, which are quickly succeeded by others, forming generally a circle. Sometimes the former set heal before the succeeding ones are fully developed; at others, they all congregate together, and form one sore. If they are not seen by the surgeon until this has taken place, and the history of the disease is not attended to, they may lead to an erroneous opinion. The herpes preputialis is often attended with a deranged condition of the health, particularly of the stomach and bowels; and inquiry will often afford us a clue, by showing that the patient has, at other periods, been subject to this eruption in other parts. The treatment of this disease is very simple: a mild saturnine wash, in a very diluted state, forms the best application. The complaint usually runs its course in about a fortnight. When herpes attacks the external skin of the penis, its progress is more rapid, because the parts are not so moist, and a scab is generally formed, which, falling off in the course of some days, leaves the surface underneath perfectly healed. Among the causes of this eruption I have mentioned a deranged condition of the general health; but it is right also to observe, that it has often been met with in connexion with an irritable state of the urethra, or even of permanent stricture, and therefore, whenever it occurs, some inquiries should be instituted as to the condition of that canal; more especially if the eruption recurs at the termination of some weeks or months, as it is often apt to do.

Mr. Evans has described an appearance upon the penis which he believes to be the same that Dr. Bateman terms *moluscum*: it is a circular swelling, of the same colour as the surrounding integument, and is found to contain a purulent fluid within it. These appearances I have more than once seen: they are not likely to be confounded with syphilitic sores, for, in general, the cuticle shrinks

after the fluid is discharged, and, peeling off, leaves a sound surface beneath it. Besides these more distinct affections, authors describe boils, anthrax, and phlegmon, as occasionally attacking the parts of generation: that these may have been mistaken for venereal ulcerations I will not deny, when presented to the surgeon in certain stages of their progress; but the history of the complaint will very generally clear up the difficulty, and when seen from the commencement they are not likely to mislead. One other diseased condition of the prepuce still remains to be mentioned: it is met with in those who have the prepuce long, and consists of cracks, or chaps, in the skin, just at its reflection, attended with much induration, and bleeding frequently upon every attempt to denude the glans. This is called by Mr. Evans *psoriasis preputialis*. I have usually looked upon it as a form of excoriation, but I am perfectly agreed with him as to the mode of treatment. An ointment composed of the hydr. nitratis, diluted with an equal proportion of spermaceti cerate, will effect the cure, though sometimes it will require some days, or even weeks, to restore the integrity of the parts. I have now described, as accurately as I have been able to do, all those diseased appearances with which I am familiarly acquainted, and which I do not consider as the necessary consequences of sexual connexion, and therefore, *à fortiori*, not deserving of the appellation of venereal sores. I shall next proceed with a description of certain ulcerations to which the term syphilitic more properly applies, since they are followed, when left to pursue their own course, by the acknowledged constitutional affections proper to that disease.

From the Gazette de Sante.

ON THE EMPLOYMENT OF TARTAR EMETIC IN DISEASES.

In one of the November numbers of the above mentioned journal, we find the following summary of what is at present known relative to the employment of tartar emetic *à haute dose*, in the treatment of diseases.

1. Tartarized antimony administered internally, in quantity of from eight grains a day to that of a scruple, of one or even several drachms, is not a poison; it is even never followed by bad effects, except in a very limited number of cases, where its use was manifestly contra-indicated.

2. Whether it could be borne or not by the patient, it did not produce inflammation of the mucous membrane of the stomach and intestines. When there existed indications of this phlegmasia, such as redness of the tongue, pain in the epigastrium, diarrhœa, &c., these symptoms have been frequently seen to disappear during its employment. (*Laennec, Delourmel, Meriadec Laennec, Lagarde, Fontanelle.*) When the patients died, the alimentary canal was ordinarily found free from alteration, and the internal membrane pale or

slightly injected. (*Meriadec Laennec, Strombio,*) &c.

3. Tartarized antimony in large doses, is a powerful remedy in *peripneumony*. It is very useful, either as an auxiliary to venesection, or as the only curative means, when sanguineous depletion has failed arresting the progress of the disease, or when it has not been deemed advisable to have recourse to this measure.

M. Peschier has cured all his patients with one exception, without blood-letting, by the use of tartar emetic alone. M. Wolff has employed it successfully, in ten cases, which are all that he has treated. M. Palais in one; M. Prato in two; M. Rasori in fifty-two out of sixty-one cases in his civil clinique, and fifteen out of fifteen in his military clinique.

In regard to the peripneumonies, in which sanguineous depletion and tartarized antimony were concurrently employed, the following is the general result. Rasori cured in his civil clinique, four hundred and forty-four out of six hundred and two; he lost one hundred and fifty-eight; making a mortality of twenty-two per cent. In his military clinique, one hundred and forty-nine out of one hundred and seventy-five were cured; twenty-six died,—mortality, fourteen per cent. M. Laennec, of fifty-seven cases lost two, being rather less than one in twenty-eight. M. Ambroise Laennec lost three out of forty cases, making a proportion of one in thirteen. M. Bang, two out of forty-five—mortality, one in twenty-two. In the greater number of these cases, the tartarized antimony did not excite vomiting, or at least only in the commencement of its administration; in others, it could not be borne at any period of the disease, without this circumstance having always opposed an obstacle to the cure.

4. Articular rheumatism is, next to pneumonia, the inflammatory affection in which tartarized antimony, in large doses, has been most successfully employed. Among a great number of cases treated by M. Laennec, this professor found, that under the influence of this treatment, the medium duration of the disease, was from seven to eight days. Of thirteen cases collected in his clinique, the tartarized antimony was evidently very beneficial in eight; it was useless in two, injurious in one, and of doubtful success in two. (*Meriadec Laennec.*) M. Honoré cured, by means of it, four out of five cases of acute articular rheumatism. (*Lagarde.*) Of fifteen cases cited by M. Delourmel, thirteen were cured by the same remedy. The Osservatore di Napoli contains six other cases of cure, two of which were published by Dr. Spadafora.

5. Tartarized antimony has been given in some other affections, but thus far, the number of patients has been too limited to inspire entire confidence in the results obtained.

M. Laennec cured by this remedy one case of *arachnitis*, three of *acute hydrocephalus*, one of *phlebitis*, three of *chorea*, and two of *angina*. M. Ambroise Laennec has succeeded by means of it, in two cases of *idiopathic tetanus*; M. Recamier in four cases of acute

pulmonary *catarrh*; M. Fontaneilles in one case of icterus.

6. Among the other diseases in which the remedy in question has been tried, there are several cases in which it produced no well marked advantage, and some in which it was prejudicial. M. Laennec has observed, that it speedily arrested the inflammatory orgasm in *pleurisy*; but that it did not accelerate the absorption of the extravasated fluid which was its consequence. Of eleven cases of apoplexy, six were cured, but as this professor made use of blood-letting, at the same time, it is uncertain what share is attributable to the tartarized anatomy. (*Meriadec Laennec*.) In one case of *rheumatism*, and in another of *gout*, it was evidently injurious. (*Meriadec Laennec*.) Its employment in *semi-paralytic mental alienation*, has not been followed, in general, by any success. (*Bayle*.)

From the London Medical and Physical Journal.

LITHOTOMY PERFORMED TWICE IN THREE DAYS ON THE SAME PATIENT. By M. DUPUYTREN. From a Correspondent at Paris.

On the 17th November, an old man was brought into the theatre of the Hôtel Dieu, for the extraction of a calculus, which was followed by one of those disastrous results that occasionally fall to the lot of the most eminent practitioners. The subject of this notice did not, indeed, die *under* the knife; though, after long protracted but judicious efforts on the part of M. Dupuytren, the stone remained the first day immoveably fixed in the bladder. On the third day, a second and successful attempt was made to extract the stone by the recto-vesical method; but the unfortunate patient expired in the course of the night.

Few cases offer more points of instruction to the practitioner than this. The cause of the difficulty was not obscure, but, as it frequently happens, was not detected till it was too late to be remedied the first day; since the patient's state made it then necessary to remove him to his bed, and to defer all further measures to a future day, if he should indeed survive the consequences of the violent irritation and torture which he had already undergone.

It seems hardly necessary to suggest that the only impediment to the exit of a stone, under the hands of so distinguished an operator as M. Dupuytren, must have arisen solely from its extraordinary bulk, and the want of proportionate space for its exit. It will be found, however, that the judgment of the surgeon in the adoption of his method on this occasion, was not altogether free from blame. The size of the stone had been previously ascertained by the introduction of a finger into the rectum, and the application of the hand to the hypogastric region. These were separated by a resisting body for the space of two inches and a half, so that the larger diameter of the stone, and perhaps the smaller

one, equalled the usual distance between the tuberosities of the ischia, which is the largest opening through which the stone could be extracted. By a sort of fatality, however, the diverging of the two bones in this patient was less than usual.

The entrance of the staff into the bladder was obstructed by a sonorous body impacted in the neck of this viscus. The sound, on percussion, was audible in the back seats of the theatre; and so completely did the stone fill the cavity of the bladder, that not a particle of urine was retained, and a urinal was constantly worn to receive it *guttatim*. The patient complained of uneasiness in the kidneys, of considerable pain in the bladder, which extended to the glans, where the usual sensation of itching was felt. The disease had, in its present form, existed for ten years; and had been preceded by the discharge of gravel, and occasionally small calculi, through the urethra. At length one became impacted, was broken, and removed with considerable pain. When the gravel ceased to be discharged, the calculus began to form; a fact which M. Dupuytren noted as one of constant occurrence, and the cause of which may be readily conceived.

It was obvious that no ordinary incision could liberate a stone of such magnitude, and the space under the arch of the pubis was evidently not sufficient. The lateral operation was therefore out of the question; and the unnatural approximation of the tuberosities of the ischia in this subject was not very favourable to the recto-vesical incision. Yet this, or the hypogastric, was the method peculiarly called for under similar circumstances, and no alternative remained but to choose between them.

The expediency of lithotrity was cursorily discussed; but, as the principal impediments to success, a stone of considerable size and an irritable and contracted bladder, existed, the negative was immediately pronounced. The difficulty of grasping the calculus by the *litholabe* would have been insurmountable; and, were it otherwise, the numerous operations that would be requisite for the complete perforation and destruction of such a stone, would alone have been sufficient to cause its rejection.

Although an incision above the pubes affords an easy exit for the stone, yet this method is frequently followed by infiltration of urine into the cellular membrane interposed between the abdominal muscles, and thus causes peritoneal inflammation, gangrene, and death. Besides, an impediment might arise from the state of the bladder in this patient: for the extreme, nay invincible, difficulties which have been sometimes experienced in endeavouring to distend a cartilaginous bladder, so as to make it rise above the pubes, might occur in this case; for a bladder, thus diseased and irritable, would not yield in the slightest degree, and the agony of the patient must compel the surgeon to abandon the attempt. A staff is generally introduced

to carry the bladder above the pubes; but here it could not pass at the anterior part, and it became necessary to use one of small size, and slightly curved for the space of an inch at its extremity, for the purpose of passing beyond the stone, and of conducting the knife during the operation that was ultimately chosen.

But is the recto-vesical method free from objection and danger? Not altogether. It is followed occasionally by inflammation of the cellular membrane within the pelvis, and sometimes by recto-vesical fistulæ. The mucous membrane of the rectum, unaccustomed to the irritation of urine, might become inflamed by contact with it. The vas deferens is liable to be injured. "But how," says M. D. "can these disadvantages be compared with the dangers of the hypogastric operation, which some are disposed to recommend at the present day, and which nevertheless has been abandoned. It is an undoubted fact that, as often as surgeons have thought proper to renew the attempt, more patients fall victims to the hypogastric than to the perineal incision."

On a balance of evils, M. D. inclined to the recto-vesical method. If fistulæ should occur, he conceived it would be less disastrous than peritonitis; nor would the inflammation of the cellular membrane within the pelvis be so likely to occur as that of the peritoneum.

Nothing could be more judicious than this reasoning; and, though the concluding sentence of an excellent clinical lecture had but just escaped from the lips of M. Dupuytren as the patient was placed upon the table, and prepared for the operation, yet in this short interval an unlucky train of thought, it seems, subverted this decision, and induced him to do that which for three quarters of an hour he had shown to be in the present case objectionable.

The bilateral operation was performed, which differs from that originally proposed only in the external incision! This was made perpendicularly in the raphe down to the anus, and the double-bladed bistouri caché was used to divide the bladder and prostate on both sides.

The incisions being lateral instead of posterior, it became impossible to draw the stone in a direction perpendicular to the axis of the pelvis. After long-continued efforts and occasional repose for deliberation, it was found that the stone was unlikely to move; and it became a question whether recourse should be had to the hypogastric operation or to the recto-vesical, or whether the stone should be broken in situ, not by lithotritic, but by mechanical power, which from time immemorial has been recommended in all cases where the stone has been too large to pass either through the incision or through the natural aperture of the pelvis. However, it was deemed advisable to defer all other proceedings at present, and the patient was conveyed back to his bed, in a situation which has been recommended in all cases by those surgeons who, like Deschamps,

advise dividing the operation into two distinct periods; a measure, in truth, absurd, and which nothing but unforeseen and pressing events can justify.

The state of the patient, at the close of this calamitous event, was not unlike that of a child operated upon by Franco in the middle of the sixteenth century, and to which we are indebted for the high operation. Had the latter been performed on the present occasion, the resemblance would have been perfect. As the stone in the child had resisted the most persevering efforts for its removal, the surgeon was entreated by the parents to desist, and to abandon the little sufferer to his fate. But, as he states, "*being desirous of avoiding the reproach of having failed,*" (a laudable motive!) he introduced his finger into the rectum, projected the stone above the pubis, and extracted it through an incision made into the bladder. The child recovered, but was extremely ill, and the operator had not sufficient confidence in this method to advise its adoption. It remained forgotten or neglected until about twenty years afterwards, when it was brought into notice by Rousset.

M. Dupuytren was evidently distressed at the result; his usual firmness abandoned him, and his countenance betrayed the conflict that was passing within. He immediately explained to those near him the error which he had committed, and on the following morning publicly acknowledged the same to the assembled practitioners and students. How praiseworthy is this candour, and how beneficial to science! How much more do we learn by a cool impartial consideration of occasional errors, than by the ordinary course of unruffled practice. How injurious the notion that the reputation of a man of science can lose from such voluntary disclosures! Can the great and well-merited fame of M. Dupuytren suffer? Certainly not. Enthusiastic as he is in the pursuit of professional knowledge, ever intent upon extending the boundaries of our art, and anxious to relieve the sufferings of humanity, where is the being so malignant or so daring as to utter a word of reprobation, if, in the fluctuating distractions of his mind, in estimating the comparative merits of various methods, his choice should be sometimes erroneous.

On the morning after the operation, no bad symptom had been experienced. The patient had been frequently put into the warm bath, where he remained from one to two hours at a time, according to his feelings. He was twice bled, and leeches had been applied to the buttocks. As the median incision divides no vessels of importance, no hemorrhagy had taken place; the pulse was rather calm; no shiverings had been experienced; no pain or uneasiness from pressing over the bladder: yet the blood was decidedly buffy, although not to a great depth. It was remarked that the patient experienced less pain in voiding the urine than before the operation.

At the close of the second day, pain was

experienced in the left iliac region: fear was entertained that inflammation had seized the cellular membrane within the pelvis. No soreness on pressing the abdomen, to which cataplasms had been applied through the day, excepting during the use of the warm bath.

Third day, symptoms seemed aggravated. He had been at intervals several hours in the warm bath, and leeches had been applied in large numbers. The abdomen was distended with wind, accompanied by constant desire to go to stool. This was supposed to arise from the pressure of the stone on the rectum.

In the evening, the sufferings of the patient were increased. The stone had partly descended into the wound. An incision was made through the sphincter ani, as in the rectovesical operation, and, after some difficulty in getting the forceps to hold it, was at length withdrawn.

About midnight the man died.

From the Medico-Chirurgical Review.

RAPIDLY FATAL PUERPERAL PERITONITIS—ATMOSPHERIC CONSTITU- TION.

A case of the above kind is communicated by Mr. Dalrymple, of Norwich, to Dr. Farre. We shall state the particulars, before offering any remarks.

A lady, in the 30th year of her age, was delivered of a fine boy, (the fourth child) on the morning of Dec. 17. The three preceding labours had been painful and protracted, the last of the three requiring instrumental aid. On the present occasion, the child was delivered before the arrival of the surgeon. The labour had been rapid and severe. The surgeon left his patient in a tranquil state. At 4 P. M. he again visited her, and all was quiet. An anodyne was prescribed for the night, but was not taken, as the night was spent in easy sleep. A dose of castor oil was taken the next morning, and had acted mildly. At 1 A. M. of the 19th, (the third day, medically computed) the surgeon was summoned in haste. He learnt that, at 8 o'clock in the preceding evening the patient had been seized with a *rigour* and violent pain. He found her with a burning skin—pulse 130, harsh and full—excruciating pain in the belly, which was tense, tumid, and tender to the touch—uterus risen out of the pelvis, and forming a defined tumour in the hypogastrium. Venesection ad $\frac{3}{4}$ viij.—mercurial and saline purge—some relief. In six hours more, the surgeon was again summoned. The skin was dry and parched—pulse quickened, but reduced in force—abdomen still more tumid, and incapable of bearing the slightest pressure. No urine having been passed since the preceding evening, a catheter was introduced, but no water was found in the bladder. Twenty-four leeches above the pubes—warm fomentations—blisters to the abdomen—50 drops of Battley's liquor opii sedativus. *Evening.* Much

the same state—pain of abdomen rather less urgent, but its sensibility to pressure the same. Patient lies on her back, with her legs extended. Mercurials, aperients, hyosciamus. 20th. *Morning.* Evidently sinking—died at 5 in the afternoon.

Dissection.—The uterus was at least one third larger than usual at this period *post partum*—its peritoneal surface of a light pink colour—the parietes of the uterus very thick, firm, and rather pale—no organic lesion of this viscus. There were slight traces of inflammation observable along the peritoneal surface of the fallopian tubes, as far as the ovaries, which were larger and softer than natural. No trace of inflammation on the peritoneum, or in any other organ or part of the abdomen, with the exception of the right kidney, "which afforded proofs of vascular congestion."

"Here," says Mr. Dalrymple, "is a case entire and complete in all its parts, commencing instantaneously, and with great violence, at a moment when the general system seemed to be in a state of perfect ease and repose; proceeding with frightful rapidity, and terminating speedily, and almost without check, in death."

"Through the great good sense of the friends of the deceased, permission was obtained to inspect the state of the parts; an opportunity most rare and precious in such cases. Suffice it then to observe, that within the space of six or eight weeks, no less than seven cases of fatal puerperal inflammation have either fallen under the immediate personal observation of the reporter of this case, or have been communicated to him; all terminating unfavourably within the short period of fifty hours. Can season, or atmospheric causes, or the 'constitution of the year,' account for this remarkable fatality? In reference to this point, it may not be impertinent to state, on the authority of the intelligent husband of the subject of our case, that an unusual disease has recently prevailed in the dairy department of a large farm in his own occupation; a certain number of cows, calving within a short period, being attacked, the greater part of them, with a malady resembling, so far as we have been capable of judging, the puerperal inflammation, or fever of the human female. Under this disease, the suffering animals were uniformly treated by full and repeated blood-lettings, and all of them eventually recovered."

"A singular coincidence is worthy of remark in this case. The unfortunate subject of this paper took a considerable interest in the treatment and cure of these animals; possibly associating in her own mind the analogy of their disorder with the sufferings which she had experienced in former labours, and which her then similar condition might lead her to anticipate."

"May it not now be asked, whether moral causes may not have so modified the influence and agency of physical causes as to have produced that depressing effect on the general

system, which the negative character of the appearances after death has so totally failed to explain?"

We doubt whether the term *peritonitis* be strictly applicable to the above case. Was it a "serious affection occurring after delivery," as described by Dr. Marshall Hall? Was it a puerperal fever modified by the malarious constitution of the years 1826, 1827, and 1828? The following comments of Dr. Farre are highly deserving of attention, for the atmospheric constitution to which he alludes is in full force at this moment.

"If Sydenham had flourished in this era he would have termed the constitution of the years 1825, 6, 7, and 8, intermittent, and it has been combined with an unusual degree of neuralgic affection, from Hemicrania to the most intractable forms of *Tic douloureux*. A similar combination of disease took place in the year 1809, but has not prevailed for a quarter of a century to the extent which it has done during the last two years. It commenced in the spring of 1825, having been preceded by an unusually humid autumn, during which the north of Europe was flooded to a very alarming extent. It was ushered in by a very fatal peritonitis, both simple and puerperal, in the human subject, and by a still more destructive wet rot amongst sheep."

"It was at the end of February in that year (1825) that an experienced surgeon at the west end of London said to him, that he had lost four patients in the puerperal state during that month, of what appeared to him to be peritonitis previous to the post-mortem examination, which did not explain to his satisfaction the nature of the disease, he having found, in two of the cases, only a little bloody serum extravasated into the peritoneum. He added, that he could not understand it, and was persuaded that more would be heard of it. His prediction was verified. At the east end of London, not far from the river, this disease proved still more fatal during the month of March. One surgeon informed the editor that he had lost seven, another four, in all of which the disease was treated at the instant of its formation by active blood-letting. A physician-accoucheur, who attended in consultation many of these cases, stated to him, that out of thirteen cases eleven died, that all which had been bled died, and that the only two which recovered had not been bled, having been treated by turpentine. The summer proved remarkably dry and hot: during July not a drop of rain fell in London. The intermittents commenced with anomalous inflammatory affections, lapsing into continued fever, and sliding into a quotidian or tertian type, rheumatism, subject to dangerous metastasis, erysipelas of an untoward kind, and some cases of malignant sore throat, which had not occurred for a long period before. The autumnal season was humid, and the continued fevers, falsely called typhoid, and approximating more to the remittent form, proved insidious, the fatal collapse occurring early and unexpectedly. The following summer proved still

more dry, there being scarcely any rain even in June, and not less hot, so that the pulse crop failed. The character of disease was less malignant, but the same type was still preserved. Puerperal peritonitis was much less fatal, but even in this year one surgeon at the east end of the town lost seven women, in a very few weeks, under a varied treatment. 1827 being rather cold and humid, intermittents, remittents, and neuralgic affections prevailed in their greatest extent; and to conclude in the language of Sydenham, the constitution of the year has not changed in 1828. This fatal peritoneal disease appears to have borne the same relation to peritonitis that the pneumonia notha does to pneumonia, not only in the serous, or sero-sanguineous effusion, instead of coagulable lymph, but also in the complete inability of the patient to bear the lancet."*

We recommend the foregoing observations to the attentive consideration of practitioners. They entirely accord with our own experience—and they may tend to check the effusion of blood during a constitution of the atmosphere which engenders a host of diseases, aping the purely inflammatory, but bearing very badly the vigorous depletion to which we have been accustomed for many years past.

From the Medico-Chirurgical Review.

ON TRAUMATIC GANGRENE.

To Baron Larrey we owe the division of gangrene into constitutional and traumatic, a division important alike in theory and practice. Though it is not our intention, nor indeed in our power, in the limited space of a clinical article, to enter on a laboured or learned disquisition, yet, before we proceed to particular cases, it is absolutely necessary to indulge in a few, and but few, observations.

It had been found, by experience, that the removal, by art, of a mortified, or rather, a mortifying limb, tended to hasten the fatal event. This was the general result of experience, and from it was deduced as a general rule—to defer amputation till the system itself seemed to call for it, by forming the line of separation, and, as it were, chalking out a path for the surgeon. Founded in truth, the principle, if carried to its utmost extent, is evidently fraught with error, because it supposes that gangrene is ever a constitutional affection, and never a local one. We can easily conceive, that the mortification which creeps upon the limb of an octogenarian, commencing at the toe, and slowly but steadily mounting upwards, depends upon a want of power in the constitution at large, and is not to be cured by lopping off a part. This, as we said before, we can easily conceive; the *vis vitæ* is enfeebled, by age, or other debilitating causes; the arteries are probably ossified; the heart,

* Journal of Morbid Anatomy.

which is unequal to the task of supporting the body with the necessary quantity of blood, fails in the parts which are farthest from its influence; the organization, in short, is *dying*, though only by inches; and the surgeon, who expects to revivify it with his knife, must first convert his gallipot into a cauldron of Medea! But suppose we take another case. A healthy young man, "in the hey-day of the blood," is wounded on the field of battle, and, after a certain lapse of time, is affected with gangrene of the limb. The gangrene appearing in the neighbourhood of the wound, sometimes, though rarely, commencing in the foot, (if the lower extremity is injured) rapidly extends, and speedily kills. For the sake of the civilians, we will take an illustration nearer home. A gentleman has the thigh transfixed, or at least wounded, by the shaft of a gig. The limb in a little while grows cold, becomes gangrenous, and dies. The same is observed after compound fractures of the leg, or in fact, as a consequence of a number of accidents. Can any one maintain, for an instant, that the gangrene of the octogenarian, or that which occurs idiopathically in a half-starved, miserable wretch, is identical, is similar to that which follows close upon a wound in a young and a healthy individual? The causes, the progress, are different; then why should the treatment be the same?

In the following extract from the excellent work of Mr. Guthrie on Gun-Shot Wounds, the question is met so fairly and fully, that we cannot resist the pleasure of transcribing it.

"A cannon-ball, striking a limb, destroys the life of the part, in a greater or less degree, according to the extent of the injury effected; if the blow be received on the middle of the leg, the bone broken, the arteries divided, or rendered incapable of carrying on the circulation, mortification takes place in the foot, because it is deprived of its usual support; it is possible, however, that this may not follow immediately, as it may not be entirely deprived of blood, which passes into it in small quantity from the parts above, connecting it with the rest of the extremity. The parts immediately above those actually struck by the ball have received a very considerable shock, and their sensibility is much impaired; and, when any action takes place in them, they will sometimes be found unequal to sustain it; and as the action attempted to be set up is inflammation, the failure of support causes it to fall into gangrene. It is, however, a failure of support, not from want of power in the constitution, exhausted by a serious struggle, but from incapability of the parts to maintain it. The extent to which this debility of parts may extend is uncertain, and the limits to the mortification must be so likewise, if left entirely to nature: it is evidently a struggle on the part of the constitution to re-animate the drooping powers of the part, which are unable to bear the assistance attempted to be afforded them. Inflammation then precedes the mortification, the limb swells, and has every appearance above the

wound, as the disease advances, of humid gangrene. It began as a local disease, the part being simply unable to live, and nature having received a shock, as I conceive, entirely through the nervous system, and not by the absorbents, endeavours by means of an additional supply of blood (as she invariably does in every case of injury) to recover the parts in jeopardy, to renovate their strength. If the parts are capable of bearing this, healthy inflammation is established, and the mortification ceases. The disease is, from the moment inflammation is *established*, no longer local, the constitution is beginning to be implicated; and, if the struggle be continued, it becomes a case of mortification, dependent, according to my principles, on constitutional causes. Nature seems to suffer in the deprivation of the principle of life whenever she becomes sensible of the death of any part of the body, and in a greater proportion than would seem to be commensurate with the supply of that part in a state of health; she becomes weakened of course more by the death of a part than by its amputation; and upon a principle connected with life, which we cannot explain. When the inflammation commences, the great point for observation is whether the power of the part can or cannot maintain and carry it on to the healthy, adhesive, and ulcerative stages. If nature can accomplish this, she ought not to be interfered with; but if it appear that the part is incapable of supporting the efforts of nature, or, what is worse, that she is incapable of making them; is she to be allowed to exhaust herself in a fruitless struggle, or is assistance to be given the instant the inability of the part is seen, and just as the powers of nature are displaying themselves? I have no hesitation in saying, that the disease is yet a local one, nature is only showing what she will do if properly seconded; and that, if her efforts are directed to sound parts, capable of sustaining them, she will be able to make a sufficient and successful struggle. Amputation, then, is to be performed in sound parts, to which the usual efforts of nature will be directed; and, if they be unbroken, or only impaired by the previous injury, the result will be fortunate: but the inflammation will not be sufficiently powerful to be able to stop at the adhesive stage, union will not take place to any extent in the stump; suppuration should therefore be encouraged as a natural consequence, and no more adhesive straps should be applied than may be sufficient to keep the parts together, so as to prevent retraction. Warm fomentations and poultices should be preferred to cold applications, and the ligatures should all be cut short."

Dr. Hennen remarks, in his valuable work on Military Surgery, that to wait for the line of separation, is, in many cases, "to expose the patient to certain death;" a sentiment in which the most eminent surgeons of the day are almost universally beginning to agree.

We shall now advert to some interesting and properly authenticated cases, in which the operation has been had recourse to, prior to

the appearance of a line of separation. Passing over the examples given by Baron Larrey, the first we shall notice is detailed in the work of Mr. Guthrie.

Case 1.—A man received a blow on the back part of the leg, which stunned him, and brought him to the ground. On endeavouring to move, he found himself incapable of stirring, and the sensibility and motion of the limbs were lost. The leg gradually changed to a black colour, and when the man was carried into Brussels, the limb was apparently mortified as high as the knee; the skin was not abraded; the swelling not so great as in cases of humid gangrene; no appearance whatever of a line of separation. The inflammation appearing to be slight, amputation was performed by Mr. Campbell, at the request of Mr. Guthrie, immediately above the knee.

"On dissecting the limb, I found that a considerable extravasation of bloody fluid had taken place below the calf of the leg, and in the cavity thus formed, some ineffectual attempts at suppuration had been made. The periosteum was separated from the tibia and fibula; the popliteal artery was, on examination, found closed in the lower part of the ham by coagulable lymph, proceeding from a rupture of the internal coat of the vessel. Two inches below this, the posterior tibial and fibular arteries were completely torn across, and gave rise, in all probability, to the extravasation."

The operation succeeded, but the patient, at a subsequent period, died of dysentery. From the closure of the popliteal artery by coagulable lymph, the conversion of the extravasated blood into a sanious fluid, and the attempt which had been made at suppuration, Mr. Guthrie concludes, that the internal parts were not entirely deprived of life by the blow, but died shortly afterwards, without much effort from nature to prevent it. Here amputation was delayed until the constitution was somewhat affected, although the operation "ought to be performed as soon as the extent of the injury can be ascertained, in order that a joint may not be lost." For our own parts, we never saw a case of gangrene (traumatic,) unattended with considerable disturbance of the system from the very first stage to the last. The rule, we should imagine, is to operate, as soon as the gangrene is established, care being taken, of course, to amputate above the seat of injury. The separation of the periosteum, from the tibia and fibula, is a curious item in the foregoing dissection, though we once saw a similar, or very nearly similar appearance.

Case 2.—A boy, in jumping across a ditch, fell and produced compound fracture of the bones of the left leg. He was soon afterwards brought to St. George's Hospital, when the limb was placed in junks, and union of the wound, which was trifling, attempted. On the 18th, two days after admission, he complained of very great pain in the leg, and the bandages were loosened in consequence. On the 19th, some uneasiness remaining, the

tails of the bandage were entirely cut away, and common simple dressing applied. At this time, he complained of some numbness of the foot, but little attention was paid to the circumstance. On the morning of the 20th, gangrene had appeared, commencing at the wound, and spreading thence downwards towards the foot, and upwards to within a little distance of the knee. The features were shrunk—pulse rapid—delirium. The gangrene continuing to spread, Mr. Brodie performed amputation as high in the thigh as could conveniently be done. The patient sustained the operation very well; whilst the state of the pulse, and anxiety of aspect, were decidedly relieved on the removal of the limb. The improvement, however, was transient and deceitful—tetanus was developed next morning, and, in little more than six and thirty hours after the performance of the operation, the boy was no more. At the wish of the friends the body was not opened, but the stump showed no traces of gangrene whatever. The limb that was removed presented some curious appearances. All the soft parts which composed it, especially the muscular and cellular textures, were more or less disorganized. The fracture of the bones was not very severe, but the fibula was entirely separated from its periosteum, from the fracture to the epiphysis, and down to the malleolus. The separation was so complete, that, on cutting the periosteum, the bony shaft *fell out*. The same thing was noticed with the tibia, though not to so great an extent. The cartilages of the knee-joint were somewhat ulcerated; the sheath of the great sciatic nerve was studded with many little ecchymosed patches.

At first sight, this case would appear to be unfavourable to the question of amputation, though in fact, it proves little, either for or against it. After the patient's decease, it was discovered, that symptoms of tetanus had partially shown themselves *before* the operation was performed, thus totally destroying all chance of its success. It was argued, on the other hand, that the measure was borne out in *principle*, because the mortification had not attacked the stump. The boy, however, died in thirty-six hours, too early, we should think, for gangrene to come on, particularly as, during a great part of the time, the attention of the constitution was fully taken up with another and violent disease.

In France, the opinion of the faculty is determined on the necessity of immediate amputation in cases of traumatic gangrene. M. Dupuytren, who seems to give the tone to the surgical voice in that country, invariably performs the operation.

Case 3.—A middle aged man, in a state of intoxication, was thrown to the ground by a cart very heavily laden, the wheel passing over the thigh, and causing a comminuted fracture of the femur, *without* an external wound. Enormous tumefaction, and violent inflammation immediately followed, in which state the man was received in the Hotel Dieu,

and placed under the care of M. Breschet. The limb was *cold*, the patient delirious, and obstinately refusing to submit to amputation. This being the case, the fracture was reduced, and the thigh put up in M. Dupuytren's apparatus, but the patient could not be kept quiet, and consequently deranged the bandages and dressings. Phlyctenæ now appeared upon the leg; gangrene attacked the foot and then mounted to the leg and lower part of the thigh; the weakness was excessive; the pulse small and frequent; the belly tense and painful; the liver enlarged and felt below the ribs; the skin icteritious; the bowels very loose; the delirium so furious, that the patient required the application of a straight-waistcoat.

M. Dupuytren, disposed as he was to amputation, hesitated here, on account of the violence of the constitutional affection, and the very great engorgement of the textures of the thigh with extravasated blood. The operation was, therefore, deferred. The condition of the patient now took a favourable turn, the icteritious hue of the surface diminishing, the belly becoming less tense, and above all, the gangrene being *bounded*. The patient now was as urgent for an operation, as he had hitherto continued *against* it, and, notwithstanding the faint probability of success, M. Dupuytren complied. On the 25th of April, amputation was performed at the upper third of the thigh, by M. Breschet, the incision passing through muscles infiltrated and engorged, and pus flowing out from the cellular texture between them. The patient grew so weak upon the operating-table as to require to be supported with wine, and subsequently died.—*Clinique*.

Here we see a boundary actually formed, before the performance of the operation, which totally failed notwithstanding. When the man was received in the Hôtel Dieu, the limb, we are informed by the reporter, was cold, and the constitution but little affected. This was the time for operation, if any, and we doubt whether the repugnance or refusal of a patient who was delirious, perhaps but half-recovered from his previous state of drunkenness, should absolutely deter a surgeon from its performance, provided he was fully convinced of its necessity. The question, however, is as delicate as difficult. We cannot but agree with M. Dupuytren in refusing, as he did, to advise amputation at a time when the general symptoms were so violent. The probabilities, in such a case, are greatly against us. From what we have seen, as well as from what we have read, we believe that, in traumatic gangrene, the symptoms are at times so acute, the local disease so violent and rapid in its progress, that no operation will succeed. It is the milder form of the affection which admits of the use of the knife. The symptoms, however, may be violent, without, in the first instance, the delirium, intermission of the pulse, and other characteristics of fatal prostration. In these cases, the inflammation would seem to incline to the phlegmonous, rather than the erysipe-

latous; the condition of the system to be inflammatory, rather than typhoid.

The following case has excited a considerable sensation in France, and was argued before the Cour Royale of Metz.

Case 4.—A native of Villers, in the department of Moselle, received a compound fracture in the middle of the left leg, with projection of one of the extremities of bone. The medical man in attendance, reduced the fracture, and put up the limb in the ordinary way, but on the sixth day after the occurrence of the accident, Dr. Ribelotte-Lablesse was summoned to the patient. The dressings were removed, and the leg, the knees, and lower part of the thigh, were discovered to be cold, black, livid, and completely gangrenous; the pulse was small and weak; the general condition of the patient most alarming. Without amputation no hope remained; for during the time the consultation was going on, little more than an hour, the gangrene had spread two inches up the thigh. This being fully explained to the parents, and the desperate nature of any operation acknowledged, they unanimously prayed for its performance, let the risk be what it might. Amputation of the thigh was accordingly performed, and, after a tedious convalescence, the patient completely recovered, and at present continues in excellent health.

It might be thought that so bold and happy an attempt, would at least have secured a trifling remuneration for his service to the operator. The ingratitude, however, on the part of the public, which Hippocrates complained of two thousand years ago, pursued Dr. Lablesse on the present occasion, and compelled him to appeal to the laws of his country, to obtain, by their means, what his patient unjustly and roguishly withheld. The cause coming on before the Cour Royale of Metz, the court directed a commission to be formed of three of the principal physicians of that city, in order to determine the merits of the case. Subsequently, M. Chaussier was directed to give an opinion on the subject, which he did in a published medico-legal consultation. This opinion, we need scarcely add, was in favour of Dr. Lablesse's operation, and somewhat to the confusion of his dastardly brethren, who stupidly and malignantly had egged on the family to resist his professional demand. The cases related in M. Chaussier's Thesis we omit; but one which is given by Dr. Buet in the 82d number of the *Clinique*, deserves to be recorded. It illustrates well the frightful and fatal rapidity of traumatic gangrene, when left to itself, and affords a strong, though a *negative* proof, in favour of the operation.

Case 5.—In the month of August, 1820, a soldier, repairing to his regiment, fell from the top of a heavy carriage, the wheel of which grazed along his leg, detaching all the soft parts composing the calf, and exposing both bones, which were not at all fractured. This was at six P. M. and the soldier was conveyed to a neighbouring cabin, where the

wound was covered with powdered charcoal. Next day he was carried to the Hospital of St. Jean-de-Maurienne, in Savoy, distant about a league from the spot where the injury was received. Gangrene had already invaded the foot, leg, knee, and part of the thigh; the pulse was full, strong, and not very rapid; the skin burning hot, and tinged rather yellow; the prostration of the system considerable. The surgeon, a kind of fatalist, gave up all for lost, and merely ordered, for form's sake, some tonic and stimulant remedies internally, with fomentations of camphorated spirit and pulvis cinchonæ to the wound. At noon that day, the gangrene had spread to the crest of the ilium, many livid spots appeared on the hypogastrium, and at five in the evening, *twenty-three hours* after the accident, the patient expired.

There are few who will dispute that the above, in the first instance, was a tolerably appropriate case for operation. A very few hours decided the fate of the patient, the inflammatory state very rapidly passing, by its own excessive violence, into the typhoid. A similar, though not so acute a case, occurred some time back at St. George's, and was not considered fit for operation by the surgeon.

Case 6.—A muscular man received a compound fracture of the left thigh, about two inches above the knee-joint; much hæmorrhage occurring at the time of the accident, and the fracture appearing to be much comminuted. The limb was placed on the double-inclined plane, cold lotions were applied, and the day after his admission, the limb being much swollen and reaction considerable, he was twice bled, to the extent of sixteen ounces, from the arm. On the morning of the third day he was seized with delirium, and the thigh had become emphysematous. *Anodynes with spiritus ætheris and camphor.* On the fourth day, mortification was developed, and the patient sank upon the sixth.

On dissection, the body, from the top to the toe, was blown up to the most extraordinary degree, with emphysema. The mortification had extended on the left side a little way up the abdomen, involving the scrotum, the penis, and nates. The femur was broken transversely an inch and a half above the knee-joint, into which the condyles had been split perpendicularly. The cancelli of the bone, the vasti, cruræus and other muscles around, as well as the cellular membrane immediately in the neighbourhood, were gorged, and injected with grumous blood; sanious matter was contained in the knee-joint, the femoral and popliteal vessels appeared to be sound; but some of the articular, or anastomotica magna arteries, or both, had been torn or divided. The cellular texture, especially that dipping down between the muscles, as well as the muscles themselves, were extremely emphysematous. Other than this, the muscles and textures of the thigh were very healthy. The viscera of the thorax and abdomen were natural; the head was not examined.

The absence of disease in the deeper-seat-

ed textures, even when the gangrene had fully run its course, seems to be in favour of an early operation. Mr. Rose, and his colleagues, however, thought otherwise, and doubtless, had sufficient reasons for their opinion. The case which we abridged in the last number of the Journal, from the clinical report of Dr. Ballingall, is, if any thing, favourable to the question at issue. Amputation was performed by Mr. Liston, and the patient survived for nearly a fortnight, dying, at last, neither from the effects of the operation nor original disease, but those depositions in the liver and the lungs which really would seem to have grown epidemic, since the publication of Mr. Rose's paper on the subject!

Previous to concluding the present article, we shall briefly allude to some other examples of successful amputation, scattered here and there in various publications. At page 155 of our 17th number, we copied from the Edinburgh Journal the case of a soldier, attacked with gangrene from the knee to the instep, after compound fracture of the tibia and fibula. Prior to the performance of the operation, the gangrene had gained the middle of the thigh; the stomach was irritable; the countenance sunk; the pulse low and weak. Amputation was performed by Mr. Macdermott, immediately below the trochanters, with success, though a good deal of sloughing occurred about the stump. The gangrene had commenced on the sixth morning after the infliction of the injury.

Dr. George Busche, assistant-surgeon in the army, has, also, put on record two successful cases.

Case 7.—A miserable woman, five and twenty years of age, was admitted, in the spring of 1823, into the Richmond Hospital at Dublin, with dislocation of the foot, and rupture of the ligaments. In the course of 18 hours, gangrene appeared, and spread with activity, attended with prostration of the bodily powers. In the morning of the third day, after the occurrence of the accident, amputation was performed, by Professor Todd, below the knee, and the patient perfectly recovered.

Case 8.—A bricklayer, at Chatham, 28 years of age, fell, on the 12th December, 1827, from a scaffold 47 feet high, and received a dislocation of the right femur upwards and backwards, a dislocation of the knee also backwards, and compound dislocation of the ankle-joint! Carried to the hospital, he was seen by Messrs. Hope and Bryant, who reduced the dislocation of the knee, dressed the wound in the foot, and put up the limb in the position of semi-flexion, after having fruitlessly endeavoured to reduce the luxation of the femur. All went on well, with care, and copious bleedings from the arm, until the third day from the occurrence of the accident, when a gangrenous spot appeared in the vicinity of the wound. In the evening, when the patient was visited by Mr. Bushe, the whole leg was covered with phlyctenæ, the thigh tense

and tumid, the cellular membrane of the lower part of the abdomen in a state of emphysema. The body was cold, and covered, in parts, with a clammy sweat—the tongue quivering, the pulse weak, collapsed and rapid.

Under these circumstances, amputation of the thigh was performed just below the trochanters, a good deal of blood being lost during the operation. We shall not pursue the details of the case; suffice it to say, that the stump healed well, and the patient left the hospital completely cured.

We shall now conclude this article, certainly prolonged to a greater length than, at first, we expected it would have been. The labour of collecting these cases from so many various sources, has not been inconsiderable, and we hope is not utterly mis-spent. The result is decidedly in favour of the operation in traumatic gangrene, without waiting for the appearance of the line of separation. That the question is one of great interest no one will deny, however unimportant and useless it may seem to the mechanical and routine practitioner. The conductor of a medical journal finds, like the old man and his son in the story, that endeavouring to please all is a hopeless piece of business. Some would have only plain matters of fact, things, which are constantly occurring in practice—others would consider this absolute dulness—and others again, can read or relish nothing, except gladiatorial exhibitions of personal abuse:

Hopes sapp'd, name blighted, life's life *lied* away!

We firmly believe that the latter class is daily diminishing in numbers, and the body of the profession acquiring a more wholesome literary taste. The time is passing by when science to be palatable, required to be tricked out in the meretricious attire of slang and ribald jest—it is passing, and we trust that it never will return. To go back to the subject of the present paper, we scarcely believe an apology required for dwelling on the higher parts of practice, as well as on the lower; for if either is neglected, much mischief will result. To dwell on nothing but every day, commonplace topics, would destroy the scientific character of medicine, and degrade it to the level of a vulgar trade, a consummation never to be wished for.

GANGRENA SENILIS.

Doctor Victor Andry has lately published a long memoir on Gangrene, and more especially the spontaneous, or Senile Gangrene, described by Pott, and other writers.

The Doctor undertakes to demonstrate that all gangrenes, under whatever form they present themselves, are referrible to one proximate cause—the cessation of the circulation in the part affected. All the occasional causes of gangrene, he maintains, act in the same manner, namely, by producing a mechanical obstruction to the course of the blood, or inflammation of the vessels themselves. This

last, he avers, is the most frequent cause of gangrene, and that by interruption of the circulation. The experiments of Kaltenbrunner, and many others, prove that in all inflammations, there is a portion of the part inflamed, in which the circulation is nearly, if not quite stagnant. If the inflammation be very violent, or if, from some other cause, the circulation be not re-established in the minute vessels, gangrene, of more or less extent, ensues.

In respect to the gangrena senilis, or Pott's gangrene, Dr. A. observes that the cessation of the circulation, in consequence of inflammation of the vessels, has not been generally acknowledged as the cause. Although the disease is certainly much more frequent among old than among young people; yet it is occasionally seen in all periods of life—and, in all cases, he maintains, it is owing to inflammation of the veins. M. Baffos lately communicated to the Royal Academy of Medicine, the case of a young woman, 20 years of age, affected with dry gangrene of the feet, attended with excruciating pains, but without any change in the colour or in the temperature of the skin. On dissection, the veins of both the lower extremities were found inflamed, and filled with a kind of substance that adhered most tenaciously to the internal surface of the vessels. M. Leveillé has reported a somewhat similar case. The spontaneous gangrene was seated in the left leg. On dissection, they found the external iliac artery and the crural vein intensely inflamed and very much thickened, being lined with a fibrinous substance which did not, however, obliterate the caliber of the vessels.

The doctrine of ossification of the arteries, as the cause of the gangrena senilis, is not always borne out by facts. Bichat has shown that, in few individuals, after the age of 60 years, are there wanting traces of ossification of the arteries. In fact, there are many cases recorded, where the arteries of limbs were completely ossified, without any symptom of gangrene being present.

Without stopping to examine the symptoms and progress of this painful and generally fatal disease, we shall come at once to the principles of treatment—principles which flow naturally from the proximate cause here laid down.

“When then,” says the author, “severe pains have preceded the appearances of gangrene, with hard and full pulse, watchfulness, &c. we may conclude that there is inflammation of the arterial or venous coats, and we ought to have recourse to blood-letting, both local and general, if the strength of the patient will permit, together with stimulating frictions and fomentations on the surface of the parts threatened with gangrene.”

The following case, communicated by M. Dupuytren, from the Hôtel Dieu, will put the good effects of depletion in a clear point of view.

Case.—A female, aged upwards of 60 years, was received into the Hôtel Dieu, and there

remained nearly a year, for the treatment of gangrena senilis, affecting the toes of the left foot. Acute and long-continued pains had preceded the gangrene, and deprived the patient, for some months, of sleep. The toes of the foot were like those of a mummy, while the neighbouring parts were of a violet colour, and emitted an insupportable smell. For the first few months of the patient's sojourn in the hospital, opium, bark, and a variety of remedies were tried, without the least benefit. On the contrary, the disease made progress. The whole foot, soft and hard parts, were stricken with the gangrene. The state of the heart, the lungs, and the great arteries was carefully examined, but no deviation from healthy function could be discovered. M. Dupuytren now, being tired out with the various anodyne and tonic remedies usually employed, determined on opposite measures. Eight ounces of blood were taken from the arm. The pains were mitigated—and some sleep was procured. In fact, the patient experienced more relief from this bleeding, than from all the other remedies put together. This amelioration lasted nearly a fortnight, when the pains began to resume their former severity. The bleeding was repeated, and with the same good effects as before. After this, phlebotomy was had recourse to, whenever the symptoms were distressing; and, by this measure, the progress of the gangrene was arrested, the mortified parts separated, and the patient was discharged cured.

Since the above period, a great many people affected with gangrena senilis have been treated in the same manner, and always with success. M. Dupuytren concludes by recommending the depletory treatment, whenever the disease is attended with severe pain, considerable tumefaction of the neighbouring parts, fulness and hardness of pulse, and flush of the face. We think there can be no doubt that this is sound advice.—*Journ. de Progrès.*

From the London Medical and Physical Journal.

DIFFERENT MODES OF CURING ONYCHIA MALIGNA, (*Ongle rentré dans les Chairs.*) By M. DUPUYTREN, at Hôtel Dieu, and M. BOYER, at La Charité. By a Correspondent in Paris.

Of all the maladies that human flesh is heir to, this malignant ulceration of the ambient parts of the nail is assuredly one of the most distressing, and until lately was one of the most untractable.

From the days of Albucasis and Paul of Ægina, down almost to the present period, it has contrived to baffle the wit of surgery; and, if we may judge from the absence of any correct and *original* account of the disease in our own language, it would seem that the English practitioner is as reluctant to put it on record in print, as he must have been to meet with it in practice. For many years past, it

appears to have engrossed the attention of continental surgeons only. It is to them that we are indebted for the original of an account published by Mr. Wardrop, in the *Medico-Chirurgical Transactions*. The tearing away of the nail there recommended has been the practice of the French surgeons since the names of Pelletan and Dupuytren have been known to science. If to this we add the red hot iron, or the solution of mercury in nitric acid, we supply an epitome of the best surgical treatment of onychia on the continent for many years past. Yet, in spite of the cauteries, and the cauteries, employed for the purpose of preventing the reproduction of the nail after avulsion, which is accompanied by a recurrence of the ulceration, the relapses were so frequent that the disease, in all the severe forms, became the despair of the surgeon.

At length it was discovered by M. Dupuytren (or supposed to be the fact,) that it could *only* be cured by the complete excision of the matrix of the nail, together with the whole of the morbid part.

Such is the treatment pursued at the Hôtel Dieu; but M. Boyer, at La Charité, denies the necessity of this very painful operation, and is equally averse to cauterization after the tearing away of the nail. The reproduction of the nail, together with the disease, he asserts may be prevented by strong and long-continued compression of the matrix, by means of plaster slips. If, however, from want of sufficient compression, or of method in the application, the nail should protrude, it must be instantly removed by the dissecting forceps, and the compression be commenced *de novo*.

M. Boyer is very great authority: we have therefore thought it right to add his protest to the necessity of one of the most painful proceedings we have witnessed in the shape of a surgical operation; and, having so done, it becomes equally our duty to communicate the particulars of the method which is employed by M. Dupuytren.

Let us first remark, that, in its simple form, we have seen the disease frequently cured by the removal of the nail only, or even a part of it. In this state it is characterized by slight excoriations, or ulceration or fissure, at the edge of the nail in which the latter is imbedded. The pain is often exceedingly acute, with inflammation of the surrounding integuments. The edge of the nail is sometimes eroded, and the nail frequently becomes yellow or ecchymosed, and as it were mortified. In this form of the disease the matrix of the nail is unaffected; but, in the more severe form, it seems to be primarily affected. The ulceration is generally of a fungous nature, bleeding at the slightest touch, often proceeding to the bone, which becomes carious, and requires amputation. The pain of the limb is often intense beyond description.

Whether these two forms of the disease are mere variations in degree, is a question "*adhuc sub judice.*" M. Dupuytren thinks

they are essentially different; especially as the one may be cured by avulsion of the nail, either wholly or in part, and the other requires the excision of the diseased matrix.

CASE, unsuccessfully treated by Avulsion of the Nail, cured by Excision of the Matrix.—A woman met with an accident on the toes; they inflamed, became intensely painful and ulcerated. Leeches, fomentations, and poultices were applied, which mitigated the inflammatory symptoms, but the ulceration refused to heal. At length it became of a sanious character, bled constantly, and the surrounding parts were greatly tumefied and painful, and the edge of the nail was deeply imbedded in them.

M. Dupuytren determined on the removal of the nail, for which purpose he thrust one of the sharp-pointed blades of a pair of straight scissors up the centre of the nail to its extremity, and cut it in two. With a pair of dissecting forceps he took each angle of the incised nail successively, everting it backwards towards the matrix, and tearing it away. In a fortnight after the operation, the ulcer was quite healed; but at the end of six weeks the nail was reproduced, and the disease recurred in the form of fungous and excessively painful ulceration. It was now determined to extirpate the matrix. An incision was carried down to the bone on the back of the toe, about five lines from the root of the nail, and, by continuing the dissection, the matrix and all the diseased mass were removed. Cicatrization proceeded rapidly, and the cure was completed without relapse.

If, after the healing of the wound resulting from the operation, or during its progress, a portion of the nail should be reproduced, this is a proof that a portion of the matrix has been left behind, which must immediately be extirpated by the knife.

If, in the partial onyxia, one side only be affected, the whole nail need not be removed: it may be slit up near the edge, and the diseased portion everted, as in the case above cited.

From the Medico-Chirurgical Review.

AMPUTATION AND EXTIRPATION OF THE UTERUS.

In various numbers of this Journal we have given accounts of the above very formidable operation, which has not, till of late years, been performed in this country. We fear that British experience has now decided against the repetition of the operation, by any man who has reputation to lose; or, who conscientiously weighs the uncertainty of diagnosis, and the sufferings of the patient against the prospect of success. The operation has now been performed five times in this country—thrice by Dr. Blundell—once by Mr. Banner—and once by Mr. Lizars. Of the operations performed by Dr. Blundell, one only has been published—and that the successful one. It is stated in the Medical Ga-

zette, that in the first case, the patient died—and if so, we call upon Dr. Blundell, in the name of humanity and science, to publish that case—and we hope Dr. Blundell will also give satisfactory reasons why the unsuccessful case was not published before this time? We have heard many of our brethren inquire, whether Dr. Blundell has preserved (but how can this be doubted?) the uterus which was removed in the case where the patient survived; and whether he will favour the inquisitive pathologist with a sight of the preparation? It is of great importance to know, whether, in these successful cases, the uterus was *really* cancerous—and we cannot, for a moment, doubt that Dr. Blundell will be happy to exhibit the diseased organ to any of his professional brethren who may be curious to examine it. In the third case, operated on by Dr. Blundell, we understand the patient expired in nine hours after the operation.

In Mr. Banner's case, the operation was performed on the second of September, in the presence of several medical gentlemen, at Liverpool, and appears to have been dexterously managed; nevertheless the patient died on the fourth day. Mr. B. states, that the uterus was much larger than natural, and that "several *tubercles* of various sizes were loosely attached to the body and fundus." When we consider how very rarely carcinoma and tubercles are found in the same organ, we cannot but doubt the existence of real cancer of the womb, in the foregoing case, though "ulceration had taken place on the os uteri," and "a section of the uterus exhibited the common appearances of a scirrhus."

The operation performed by Mr. Lizars is not yet decided; (20th Oct.) but we much fear that, if the whole uterus has been removed, the event will be fatal. It is now three years since we freely expressed our opinion on this operation. In the third volume of the present series, p. 264, the following passage occurs. "*We consider the extirpation of a uterus, not previously protruded or inverted, one of the most cruel and unfeasible operations that ever was projected or executed by the head or hand of man. We are very far from discouraging bold or untried operations; but, there is a line, beyond which it may not be prudent to go, even should a solitary instance or two of success rise up as precedents to bear out the operator.*" July, 1825. Sincerely do we regret that our prognostications have been but too truly confirmed by the attempts of bold, though perhaps incautious practitioners of the present day. We cannot believe that the total ablation of the uterus will ever again be attempted in this country.

P.S. Since the above remarks were written, we have received Mr. Ashwell's new work on Parturition, in which Dr. Blundell has given a summary account of the first and third, or unsuccessful operations. We here insert them.

"*Case 1.*—Mrs. A. B. æt. 33, the mother of six children, the last born *seven* years ago, of constitution naturally healthy, came under my observation, reduced by malignant disorgani-

zation of the neck and mouth of the uterus and upper part of the vagina. There was ulceration, flooding, copious watery and offensive discharge, the constitution was giving way, and it seemed probable life would not be protracted beyond one or two months. Assisted by Mr. Callaway and Mr. Martin of Horsham, I extirpated the uterus, together with the diseased portion of the vagina, the woman living for thirty-nine hours afterwards, but never thoroughly rallying. She expressed herself highly gratified with the relief of her central pains, but the skin remained clammy, the pulse ranged between 135 and 145 in the minute, small and weak, and there was a continual feeling of debility, mixed with that kind of composure which is so often observed at the fatal close of puerperal fever. Though no ligatures were applied, only six or eight ounces of blood were lost during the operation. The womb was as large as a goose's egg. All parties were candidly informed of the great danger of the operation before it was undertaken, and the patient herself was anxious that it should be attempted, as she felt without other hope. From examination after death it appears that the diseased mass was entirely removed, without any injury to the intestines, bladder, ureter, or urethra. Mr. Green and Mr. Callaway very carefully inspected the body. The bladder was fallen into the chasm, formed by the removal of the uterus, so that it lay upon the front of the rectum, and closed the head of the vagina. In the cavity of the pelvis there were two or three ounces of bloody serum, which might have been easily discharged by passing the finger between the bladder and rectum: the formation of adhesions was begun."

Case 3.—Mrs. ———, æt. 40, of dark complexion, spare made, and the mother of several children, was labouring under scirrhusity and thickening of the neck of the uterus and about a quarter of the vagina above, with some ulceration, and feeling herself in a state of rapid decay; she was, together with her friends, after the failure of other means, anxious that the operation should be tried.

"The vagina was lax and the uterus moveable. The dangers and the uncertainties inseparable from the removal of the uterus, in the present state of abdominal surgery, were candidly laid before all parties concerned. Mr. Green of St. Thomas's Hospital, and Mr. Morgan of Guy's Hospital, considering that the constitution was not unfavourable for an operation of this kind, the patient still persevering in her wish, the parts consisting of the whole womb and the upper part of the vagina were removed. When the sides of the vagina and broad ligaments were cut through, the principal hæmorrhage occurred, amounting perhaps to nine or ten ounces of venous blood. When the uterus was drawn down, the principal pain and collapse were produced. After the operation, the pulse became for a few minutes imperceptible at the wrist, afterwards gradually returning and ranging

between 125 and 130 in the minute, with occasional though not frequent intermissions. Large doses of the tinct. opii. were given, and the patient lay for the most part composed, with occasional slumbers: now and then tendency to restlessness was observed, although a complete rally could not be obtained. From the time of the removal of the parts the patient went on sinking, and died at the end of about nine hours, without scarcely a struggle. An examination instituted next day by Mr. Green and Mr. Morgan, proved, that the intestines, bladder, and ureters, remained uninjured. Some two or three ounces of clotted blood were found in the cavity of the pelvis, in a situation admitting of easy removal through the outlet. The womb was twice as large as in Mrs. Moulden's case, and the vessels, as appeared from examination of the womb itself and of the parts within the pelvis, from which it had been separated, were of considerable size, especially the veins. Death here seemed to be produced partly by the loss of blood, but mainly by the shock of the operation."

From the Edinburgh Medical and Surgical Journal.

CASE OF ANEURISMAL CONDITION OF THE POSTERIOR AURICULAR AND TEMPORAL ARTERIES. By JAMES SYME, Esq., Lecturer on Surgery, &c.

About the middle of last July, I was consulted by Mrs. T., aged about 50, on account of a tumour about the size of a large gooseberry, which was situated behind the right ear, over the mastoid process. I at first sight conceived this to be a common encysted tumour, which it exactly resembled, but upon compressing, discovered that the disease was of a very different nature. It readily yielded to the fingers, and in its place there could then be felt a considerable depression. So soon as the pressure was removed, it immediately filled again, and if the finger was gently applied while this took place, a jet of blood could be felt issuing from the bottom of the tumour, and the patient heard such a whizzing noise, that she could hardly be persuaded the bystanders also did not perceive it. Below the tumour I felt the posterior auricular artery greatly enlarged, and throbbing with violence; when this vessel was compressed the tumour became flaccid. The patient complained of pain and noise in the swelling, the latter being often so distracting as to deprive her of sleep.

The swelling was first noticed after an accouchement about ten years ago. It had increased very gradually until of late, when its progress was more rapid. Several years ago she asked the opinion of several physicians and surgeons, who recommended pressure,

* A fourth case has been recently alluded to by Dr. Blundell—also fatal.—*Ed.*

which was accordingly tried, but without any advantage.

Conceiving the disease to be an aneurism of the posterior auris, I proposed to tie the vessel, and, meeting with the patient's ready concurrence, proceeded to do so on the following day, with the assistance of my friend Dr. Ballingall, whose presence I had requested, as the case seemed to me uncommon and interesting.

In shaving off the hair above and behind the tumour, we found that it was not so circumscribed as it appeared to be, and extended along the course of the artery. Continuing to remove the hair in the course of the dilatation, we at last exposed the whole side of the head, and observed to our concern that not only all the branches of the posterior auris were dilated, but also the posterior and middle branches of the temporal, all of which were throbbing obviously, though not very forcibly. It may appear surprising that this extensive disease escaped detection so long; but if it is recollected that the patient's hair was long and closely applied to the head, which was farther enveloped in the coverings usually worn by matrons, the difficulty of explaining this will not seem very great. The more formidable case related by Pelletan was in a great measure overlooked, owing to similar circumstances.

We now thought it would be necessary to tie the carotid, but before doing so fortunately discovered that when the posterior auris was compressed the dilatation disappeared; we therefore proceeded to execute our original intention. I exposed the vessel a little below where it entered the tumour, which was not very easy, as its course was perpendicular to the surface, and tied it with a single silk ligature. It was about the size of the radial, and proportionally very thin in its coats. When the ligature was drawn the tumour became flaccid and the dilated vessels disappeared. The edges of the wound were kept together by two stitches, and a compress moistened with acetate of lead water was applied to the rest of the head.

Every thing went on well for a week, excepting a slight attack of erysipelas, which was to be expected, as the patient informed me she frequently suffered from bilious attacks.

On the eighth day after the operation, while I happened to press on the tumour, a slender stream of arterial blood trickled away from the side of the ligature. As it soon ceased I merely applied a compress over the wound. The hemorrhage recurred twice or thrice in the twenty-four hours on the following days,—but as it never exceeded an ounce or two, I concluded that it came from the vessel above the ligature, and therefore contented myself with using superficial pressure, not in the expectation of arresting the discharge of blood,*

* It is highly important for surgeons to recollect that pressure is of little avail in the

but in the fear of disturbing, by more efficient measures, the process of obliteration going on below the ligature, which would have been attended with more serious consequences.

On the twelfth day, conceiving that the ligature must have done its duty, I examined the wound, and found in the seat of the ligature a small pulsating bag, from a crevice in the centre of which the blood escaped. Having detached with my nail this little false aneurism, and along with it the ligature which was inclosed, I ascertained that the hemorrhage did proceed from the orifice of the vessel next the tumour. I then applied some small pieces of amadou supported by a graduated compress.

Every thing went on well afterwards. I dressed the wound at the end of three days, when it was suppurating most satisfactorily, and in the course of a short time it cicatrized.

For some weeks after the operation the tumour remained small and flaccid, but when the patient resumed her ordinary diet and exercise, it began to resume its former condition. It was moderately tense; and though no throbbing in it could be felt by the finger, Mrs. T. complained of the noise and pain which had distressed her previously, in a degree comparatively slight, but sufficient to disturb her repose. No appearance of the varicose dilatation of the artery could be perceived.

Finding that the uneasy symptoms continued to increase, and being anxious to take advantage of the command which had been obtained for the present over the disease by obstructing the principal supply of blood, I determined to take an effectual step for the patient's relief.

On the 29th of October, assisted by Professor Ballingall, I cut directly through the long direction of the tumour, which then showed itself to be composed of large irregular cells, invested by a firm capsule. While Dr. B. compressed above and below the tumour, I dissected it out, and then attempted to tie the vessels, but finding this very difficult, I adopted the suggestion of Dr. B. and included them in ligatures by means of a small curved needle. The ligature being drawn, the hemorrhage ceased. I then filled the wound with dry caldis, and applied a firm bandage about the head. The patient did not experience the smallest inconvenience from this operation, excepting the pain immediately attending it. The ligatures separated in about a fortnight, and the wound is now completely healed.

stopping of hemorrhage unless it is applied directly to the bleeding vessel. If this truth were kept in mind we should not so often hear of the humeral artery being tied, since I will venture to affirm, that there is no bleeding from injury of the hand, and I will add of the foot, which cannot be commanded by local pressure. But the pressure must be applied to the bottom of the wound, and if the orifice is not wide enough to admit of this it ought to be dilated.

I am induced to publish this case, 1. Because it throws light on the nature of aneurism by anastomosis. Most surgeons have followed John Bell in thinking that this disease consists of a morbid cellular structure, through which the blood passes in its course from the arteries into the veins. I have long been one of those who maintain that the apparent cells are really sections of enlarged vessels, a good illustration of which opinion is the appearance presented by cutting across the injected spermatic cord of a ram's testicle—or a comparison of the glans penis in man or any other animal, where it seems to consist of cells, with that of the ram or fallow-deer, where it is most distinctly formed by convoluted vessels. In the cases of Pelletan, Wardrop, and MacLachlan, this structure is more readily traced; and in the cases I have related it exists so obviously as to admit of no question.

2. Because it shows that the thin dilated arteries are capable of the obliterating process.

From the Archives Generales de Medecine.

FUNGUS OF THE DURA MATER, and Transformation of the Bones of the Cranium into an Encephaloid Tumour. By Dr. GRAFF.

The patient, a woman, æt. 50, had been subject, from the age of fourteen years, to a frontal cephalalgia, which was aggravated at each menstrual period. In 1820, the pain involved the whole head, producing a sensation of vacuity in the interior of the cranium, which, accompanied by lancinating pains, passing rapidly from the forehead to the occiput, occasioned stunnings, (*etourdissmens*.) In 1823, the cephalalgia became more intense, and vomiting supervened; but these symptoms soon subsided, and there appeared in the occipital and right parietal regions, two small tumours about the size of a pea; at the same time the catamenia were suppressed, to return no more. The tumours, which were hard, elastic, immoveable, and occasioned no pain even upon strong pressure, rapidly increased, particularly the one situated in the middle of the occipital bone, and the pain in the head having become intolerable in the spring of 1825, Dr. Graff determined to attempt the removal of the latter; the operation was accordingly performed on the 11th of June. The tumour had at this time acquired the size of a large orange. On laying aside the integuments which were attached to the subjacent parts by loose cellular tissue, the tumour was seen situated beneath the periosteum; it was white, hard, elastic, strongly adherent to the cranium, and presented pulsations isochronous with those of the pulse. Dr. Graff began by detaching the tumour from the cranium, to which it was connected by a very dense cellular tissue, but he had scarcely separated it to the extent of half an inch around its circumference, when he found an osseous border, which appeared to circumscribe a great opening into the cranium; by a few free strokes with the bistoury, he removed the tu-

mour on a level with the border; immediately black blood flowed in great abundance from the wound, as if from a sponge; the hemorrhage was arrested by the application of dilute sulphuric acid. The opening into the cranium was found to be two inches, and from four to six lines in diameter in every direction; the mass by which it was filled, in colour and consistence, perfectly resembled the medullary substance of the brain; it was adherent to the osseous margin, and occupied the intervals between the bony prolongations which extended into the encephaloid mass; it was firmer at its circumference than at its centre, and entirely indolent. Dr. Graff, desirous of ascertaining to what depth the tumour extended, pushed his finger into its centre, and, by a rotatory motion, introduced it to the depth of an inch, and could even explore the inferior edge of the bony margin; throughout he found nothing but this encephaloid substance; and this examination, which had caused no pain to the patient, by apprising him of the extent of the disease, induced him to relinquish any further operation. The integuments were brought together, and the wound cicatrized in the space of five weeks, having discharged nothing but sanguineous serum. The patient believed himself cured, but the tumour was not long in reappearing, and the one situated in the parietal region, which, until now, had been stationary, began to increase rapidly. The cephalalgia returned with all its former intensity; the vomitings recurred; and to these symptoms were united a difficulty of swallowing fluids, and a sensation of cold in the fauces and in the stomach, so that the warmest aliment appeared of an icy coldness. The patient complained of cold also, in the face, neck, thorax and abdomen, although these parts presented no apparent physical change. Finally, after intense suffering, which was mitigated only by opium, she died on the 24th of the following January.

Permission was obtained to open the head only. Externally the large tumour had acquired a size almost equal to that which it had previous to the operation, the cicatrices covering it presented nothing remarkable; both tumours were somewhat less elastic than before death; the cranium was removed with the membranes and brain; the vessels at the base of the cranium were much injected; the brain presented at the place corresponding to the small tumour, a depression of an inch and eight lines in depth; a still greater depression was remarked at the posterior part of the hemispheres; but in both places the cerebral substance had undergone no alteration in its texture. The cerebellum and medulla oblongata were strongly compressed by the projection of the larger of the funguses internally; to this compression of the medulla oblongata and its nerves, especially the glossopharyngeus and par vagum, is probably to be attributed the sensation of cold in the fauces, and the difficulty of swallowing, of which the patient complained. The substance of the cerebellum and medulla oblongata was sound

The large tumour projected internally, an inch and a half, and had the form of a slightly flattened sphere. This tumour was closely united to the integuments by cellular tissue, and could not be neatly separated from them; its adhesions to the dura mater were much looser, so that it was easy to separate the two parts; the vessels which penetrated from the dura mater into the tumour were very small, and few in number; this membrane itself was thickened, and presented tendinous fibres, crossing each other in every direction, principally in the direction of the falciform process. The sinuses were enlarged, the left transverse, admitted the extremity of the little finger. The glandulæ Pacchioni, as also the portion of the dura mater situated between the tumours, were in their natural condition. The dura mater adhered to the small tumour only by three small vessels, but it was firmly attached to the osseous margin, and large branches of the middle meningeal artery passed from this membrane into the bone: both tumours were firmly fixed to the bony margin without being strangulated by it; their substance resembled the medullary matter of the brain. On slicing horizontally the largest of the funguses, Dr. Graff found, at the distance of an inch and a half above the cranium, a semicircular bony lamella, an inch in length, three lines in breadth, and half a line in thickness at its centre, diminishing towards its edges, which passed insensibly into a substance which was at first cartilaginous, further onwards membranous, and finally medullary, becoming thus confounded with the common mass. After protracted ebullition in water, the encephaloid substance could be separated from the cartilage, and the passage of the bony lamella into cartilaginous substance could thus be distinctly seen; a similar transformation was observed in the splinters and bony plates that from the osseous margin, as also from the whole circumference of the fungus which, during its growth, had been in contact with this margin, penetrated into the humour to the depth of an inch; these splinters remained implanted in the fungus when it was torn from the bone, which it required considerable force to do; a part of the medullary substance remained adherent to the osseous margin, and could only be detached from it by maceration.

The small tumour having been kept in spirits of wine for some weeks, the blood vessels, which passed in great number from the diploe to the tumour, could be more easily distinguished; very few of them were furnished by the compact substance of the bone. The bones of the cranium were thickened, and presented the following alterations. The coronal spine greatly developed, instead of forming the sagittal channel, was continued along the suture of this name, as far as the opening which encircled the large tumour; on this spine, which was very prominent, and from four to five lines in breadth, and on both its sides, for the breadth of two fingers, the internal plate of the cranium was perforated by an

infinite number of small foramina, which gave to the bone a porous appearance, and corresponded to the thickened part of the dura mater. This porous structure was more strongly marked in the neighbourhood of the tumours; the foramina which ordinarily give passage to the vessels, were smaller than natural; the reverse was the case with the channels formed in the bones by the vessels of the dura mater. The diploe, the extreme development of which, caused the great thickness of the bones, had the appearance of a solid spongy tissue; it contained much medulla, but did not present the large cells which are usually found in it. After the external table of the bone was removed, several large canals were found in the spongy substance, which had been formed by the extraordinary development of the nutrient vessels. On the right side, the middle artery of the dura mater ran in one of these canals, which was five lines in breadth, and which divided about three fingers' breadth beneath the small tumour into three branches, two of which were distributed to the tumour and bony margin; while the third divided into an infinite number of ramuscles, which for the extent of an inch and a half in every direction, interlaced with each other so as to form a vascular network, almost entirely effacing the osseous substance; a similar degenerescence, but of less extent, was found on the left temple. The circular opening in which the small tumour had been contained, was situated at the posterior and upper part of the right parietal bone, and was an inch and a half in diameter; its border, in its posterior third, was cut obliquely at the expense of the external table, and the two anterior thirds presented between the tables a semicircular excavation arising from the absence of the diploe. The external table of the bone was bent outwards, and presented a crest, a line and a half in height; the internal table was bent towards the brain; the whole circumference of the opening was bristled with bony spiculæ; two large branches of the middle artery of the dura mater encircled it, and were distributed to the bone itself. The opening formed by the large fungus was situated in the middle of the occipital bone; it was two inches in diameter from right to left, and four lines more, from above downwards; its borders were sloped obliquely at the expense of the external table; the spongy tissue presented excavations in which blood-vessels opened. The spongy texture above mentioned was found between the two tables around the whole circumference of the opening. All these alterations were found in the highest degree in the portion of bone intervening between the tumours. This case may be adduced in confirmation of the opinion of some authors, and particularly of professor Walther, of Bonn, who believe, that what is ordinarily denominated fungus of the dura mater, is nothing more than a fungous degenerescence of the nutrient vessels of the bones of the cranium, and of the osseous substance itself.—*Graefe und Walther's Journal.*

From the London Medico-Chirurgical Review.

AN ESSAY ON A NEW MODE OF TREATMENT FOR DISEASED JOINTS, AND THE NON-UNION OF FRACTURE; with Cases, and Formulæ of the new Preparations used. By THOMAS BUCHANAN, C.M. &c. &c. Octavo, pp. 100. Longmans, London, 1828.

The author of the above is favourably known to the profession, by several works of considerable merit. Hitherto, however, his essays have been upon the ear, his labours confined to a single division of surgical science, and the present is a bolder flight, we trust it will not turn out an Icarian one. Authorship is said to be a sin; certain it is, that authors invariably extenuate, or try to extenuate its commission by apologies of one kind or another. The following is Mr. Buchanan's.

"Several years ago, my attention was attracted to the extraordinary effects of the external application of the Tincture of Iodine, in the case of a patient whom I visited in the country. He had been attended in succession by two of the most eminent physicians in this town, along with the family surgeon. One of the physicians asserted that the disease was in the kidney, while the other as positively insisted on its being in the liver. Each of these gentlemen, in rotation, treated the case according to his own ideas of the seat of disease, and the indication of cure, without in any degree ameliorating the distressing situation of the patient, whose decease was daily expected. Such was the account I received when I saw him for the first time, being then attended by the family surgeon, the physicians having declared the case hopeless.

"The whole of the right hypochondriac region was enormously enlarged, so that when the patient lay on his left side, the parts projected, similar to that of the abdomen of a woman in the fourth month of pregnancy. From the appearance of the parts I was of the opinion that both the liver and kidney were diseased, particularly the latter.

"A singular circumstance was, that the patient had agreed for me to be sent for to receive instructions to inspect his body after death. I had however brought with me a small bottleful of the tincture of iodine, diluted with aqua calcis, and with the consent of the surgeon, and as a forlorn hope, applied over all the parts diseased with a camel-hair brush, to the extent of nearly half an ounce of this mixture, and left directions for this quantity to be applied in the same manner once every day. By following this mode of treatment, the patient was in a few weeks completely restored, and is at present pursuing all the laborious duties incident to the operative agriculturist, with ease to himself and advantage to his family. Encouraged by this almost unexpected cure, I began to apply the tincture externally to almost every case which resisted the ordinary routine of prac-

tice, and the result has been the production of the following pages." X.

After briefly summing up the various modes of treatment, recommended by all the most celebrated men who have written on the subject, our author proceeds to disclose his own, which, with him, "has produced resolution in the acute, and absorption of matter when formed in the chronic stage, without causing pain to the patient or injury to the system." Believing that the indication of cure consists in establishing healthy action in the parts diseased, and thereby alleviating pain and irritability, Mr. B. rejects, as inadmissible, blisters, issues, setons, and frictions, with or without liniments or ointments; inasmuch as they increase the local irritation. He also rejects the exhibition of medicine internally, because it must saturate and often disorder the system, before it affects the disease. Reasoning on the powers of mercury inunction, the good effects of iodine in diseases of the ear, and the powers of the tincture, *locally* applied, in dispersing enlargements of the inguinal glands, our author was determined to make trial of the tincture, as a local application, in diseases of the joints. When a man has determined to execute a project, opportunities of doing so generally offer, at least it was the case with Mr. Buchanan. Within a few days of his making up his mind to employ the iodine, a middle-aged woman solicited advice.

The joint, between the first and second phalanx of the middle finger, had been wounded by a sickle eight days before, and was swelled to nearly twice its natural size. The wound had closed, and, as motion appeared to be lost, Mr. B. concluded that the tendon of the flexor muscle was divided, and had partially adhered. The tincture of iodine was applied to the part, by means of a camel-hair pencil, and the back of the hand being painful and swollen, the application was extended to the parts around. This treatment was repeated every morning—the swelling, in a few days, diminished—in eight days motion was partially restored—and the finger, at the end of a fortnight, was reduced to nearly its usual size, and rendered as useful as it was before the accident occurred.

The above was, in all probability, inflammation of the synovial membrane of the joint, and consequent effusion into its cavity. Whether Dame Nature or the tincture of iodine effected the cure, far be it from us to decide. Mr. Buchanan was confirmed in his opinion by the result, and employed the remedy in several cases, two more of which we shall notice. A seaman, æt. 27, just arrived from Hamburgh, presented himself with the left hand much swollen, the fingers so tumefied as not to allow ready motion, and the fore-arm also considerably swollen, with pain extending as high as the axilla. The back of the first phalanx of the little finger was laid bare by a wound, an inch in length, and a third of an inch in breadth, with elevated edges. The greater part of the muscular substance, surrounding the lateral and posterior parts of the

phalanx to the joint, were detached from the bone, and presented a bluish colour near the periosteum. The tincture of iodine was applied to the tumid part, and the patient directed to take a mixture, containing calumba, quassia, and sulphate of magnesia, three times a-day. On the second day, the pain had subsided, and the swelling was diminished in the fore-arm and hand, but the joint of the finger was still enlarged. The wound was dressed with an ointment, composed of resin and acetic acid, spread on lint, the tincture applied in the wound and around it, and the finger bound up with a narrow roller. With the latter application daily continued, the patient was dismissed in six days more. A shipmate, affected in a similar way, had suffered amputation of the hand, and died.

The following is a different description of case. A child, one year and nine months old, was brought to our author under the following circumstances. The right hip-joint was greatly enlarged—the limb was shortened—the toes inverted—the leg and thigh wasted. The appetite was bad, the little patient had hectic, was a twin, and had the signs of a scrofulous habit. The complaint had begun six months before, and was treated by leeches, poultices, and medicine, but without the most distant relief. One eminent physician refused to prescribe, alleging that the child could not survive the shock which the system had received. In addition to the symptoms first described, we should mention that a large collection of matter had formed over the posterior part of the joint. The integument presented a partial blush of red, and the abscess was apparently ready to burst. Great pain was produced on attempting to move, or even lightly touch, the limb. The tincture was applied, and a powder of carbonate of magnesia, dragon's blood, and rhubarb, given at nights. To these, a decoction of dulcamara was added; the treatment being pursued, with little alteration, till the end of five months, when the following report was made.

"The tincture has been applied every second day this week past. The muscular substance of the leg and thigh very much improved. During a considerable period no motion could be obtained without great pain. The application speedily caused a cessation of pain except when the joint was violently moved, and even then the pain was only partial. When absorption of the tumour took place, the parts continued for some time apparently of the same size, but turned gradually soft and spongy to the touch, and diminished almost imperceptibly.

"In the early period of the treatment, the integuments on, and around the joint, used to be more swollen some days than others; but now the parts are regularly of a uniform size, except a slight enlargement about the joint, and even this slight elevation is gradually diminishing." 45.

At present, 1828, the boy can run about without any assistance, and uses his limb with freedom and facility. A slight halt, however,

remains, attributable, so Mr. B. thinks, to part of the head of the femur having been destroyed by ulceration before the tincture of iodine was used.

We fear that this new mode of treating diseases of the joints will scarcely prove of that paramount importance its advocate and author is sanguine enough to believe. *Valeat quantum valere debet.* Mr. Buchanan is far from confining the powers of the tincture to this class of complaints, extensive as it is. Gangrene, diseases of the spine, bubo, fistula, venereal nodes, inflammation of the mamma, and even non-uniting fractures, acknowledge the powers of the medicine.

"In the case of a strong healthy young man, who had his great toe crushed by a large heavy stone, which fell, and divided the toe at the second joint, the good effects of this mode of treatment was fully experienced. The parts were brought together and dressed, and two days afterwards gangrene took place; I had therefore, no other apparent resource, but either to apply a poultice to the parts until the slough was thrown off, or to amputate. In this dilemma I applied the tincture not only to the surrounding parts, but to the slough itself, and afterwards covered the wound with lint spread with the Ung. Resin. Comp. Part of the apparently dead substance of the toe became re-organized, so that instead of one half of the toe being thrown off, there was only a small piece of the skin detached; the bone united, parts healed and became as useful as before the accident happened." 49.

A young gentleman, of delicate constitution, applied with a very large venereal bubo, to which leeches and lotions had been frequently applied, without in the least arresting its progress. Mr. B. applied the tincture to the bubo, and also to an extent of more than two inches around it. On the third day, the pain and swelling were gone. Together with the iodine, the following was given, and sceptics might doubt to which the palm of victory belonged; six grains of blue pill, fifteen of jalap, and conserve of roses enough to make a bolus, taken at night.

"In two cases of fistula under my care, the one in the perinæum, and the other situated near the anus; the application of the tincture speedily effected a total obliteration of both the fistulous cavities. The fistula which was situated in the perinæum, had been an affection of several years' standing, and of course required a longer period to effect a cure than the one near the anus. I have operated successfully for this complaint several times; but in future I should prefer the local application of the tincture, especially in the incipient stage, before it has communicated with the rectum or urethra, and have no doubt of effecting a cure in every instance.

"The external application of the tincture has, under my care, been of the greatest benefit in the discussion of nodes. A gentleman applied to me some time ago, under the most distressing circumstances. He had great pain

in the scalp, particularly a little above the left orbit, and in the occipital region, where the parts were elevated, soft, and inflamed, with considerable depression in the cranium immediately underneath the sores, and easily perceptible to the touch. The pain was so intense, as to deprive him of sleep, and he was in the habit of taking a night draught of a hundred drops of the tincture of opium, and even plunging his head in water several times during the night, in order to afford a temporary suspension of the excruciating torture of this baneful disease.* He has been bled with leeches, cupped and blistered; and has used mercurial pills, ointments, &c. upwards of three years.

"He was in this deplorable state when I first applied the tincture of iodine to the nodes, in the manner described; in a few days a gradual cessation of pain took place, and in about five or six weeks, the integuments resumed their healthy appearance. The depressions became gradually filled with deposition of osseous substance, and he slept as sound as ever he was accustomed to do, prior to the beginning of this complaint. I prescribed at the same time, medicines for other symptoms of which he complained." 37.

In common inflammation and induration of the mamma, as well as in milk abscess and even in cases of cancer, Mr. Buchanan has derived the greatest advantage from the medicine. Several instances of cancerous affection of the breast were cured, at least the ulcers healed, whilst every symptom of disease disappeared, and none have yet returned. We now arrive at the second leading division of the work, headed, on the Treatment of Non-union of Fracture. After mentioning the practice of Hunter, who advised that the extremities of the bone should be rubbed together; of Mr. White, who excised the ends of bone; and, lastly, of Dr. Physic, who proposed and employed the seton, our author details a case where the tincture of iodine was used by himself.

"A seaman apprentice, ætatis 18, applied to me under the following circumstances. The patient had been employed during the preceding summer, on board of the ship *Alfred*, in the Davis' Straits fishery: and on the 31st of May his right leg was fractured by the tiller of the vessel, when she was making a 'stern board' among the ice. The tibia and fibula were both broken, but reduced immediately afterwards by the surgeon of the vessel. The fracture being oblique, and bad weather occurring, the medical attendant failed in keeping the extremities of the bones in apposition. As to the propriety of his con-

duct, in allowing the bones to remain in that state, it forms no part of the present subject, and I shall therefore merely state the situation in which I found the limb at the time of application. The extremity of the lower portion of the fibula was detained in the gastrocnemius muscle, while the extremity of the upper portion was in partial contact with the extremity of the lower portion of the tibia, and the extremity of the upper portion of the tibia, from the obliquity of the fracture, overlaid, but in partial contact with the extremity of the lower portion. The patient was obliged to be supported, at first with a crutch, and afterwards with a staff, from the weakness of the limb, otherwise in excellent health, and a strong good looking young man. I applied a pledget of lint, dipped in a stimulating and astringent lotion, to the fracture, and then passed a bandage over it, from the toes to the knee, so as to cause pressure on the parts, and ordered to take a wine glassful of the decoction of dulcamara three times a day. I persevered in this mode of treatment until April, 1827, but without the least success.

"Tired with this method, I proposed to cut down on the fracture, excise the extremities of the tibia and fibula, and then endeavour to place them in apposition. The owner of the vessel to whom the young man was apprentice, from principles of humanity, would not consent to the operation.

"On due reflection I was convinced, that if six months' trial of the Hunterian mode, partially combined with that of Mr. Amesbury, had no effect in relieving any of the symptoms, they would not in all probability be any way relieved even by a continuance of seven years of the same mode of treatment.

"From the stimulating effects of the tincture of iodine when applied externally, I resolved to put its qualities to a severe test, by applying it to the limb, in the manner already described, in order to produce increased action of the arteries in the extremities of the fracture, and consequently secretion of ossific matter. At this period it was with the greatest difficulty and extreme pain, that the patient could drag himself along with a staff. The limb was considerably swelled, particularly below the fracture; and if, when attempting to drag himself along, he touched a stone, or the least elevation above the common level of the path on which he walked, he was by that means put to the most excruciating torture. His foot, with the lower portion of the leg, could be wrought outwards and inwards, in a rotatory manner, when crepitus could be distinctly felt: while at the same time, the knee and upper part of the leg were not affected by the motion of the foot. The limb was about two inches shorter than the other.

"April 16th.—Applied the tincture to the limb, particularly about the fracture, and the parts around the ankle, and in three days afterwards, (19th,) the pain and swelling were removed. The patient took at the same time,

* "About twelve months prior to this period, the patient went to London expressly for advice, and consulted the most eminent of the profession, and was at one time under the care of a gentleman attached to the medical department of his Majesty's household, without experiencing any relief."

a wine glassful of the decoct. dulcam. C. three times a day. I continued to apply the tincture every morning until May, and then applied it only every second day; the decoction was, however, continued as usual. The parts became stimulated, and deposited osseous substance, union of the extremities of the fractured bones took place, and in the month of August following, (1827) he was dismissed cured, with the limb apparently stronger than before the accident happened, and is now (1828) on board of his vessel, as active as formerly." 77.

With this we conclude our notice of the work, which should rather have been called a treatise on iodine than one on diseases of the joints. Mr. Buchanan undoubtedly merits commendation for the zeal he has displayed in his trials of the medicine, however divided opinion may be on the results. For our own parts, we believe the author has been led away by that leaning in its favour which all men must feel in pursuing a particular inquiry. The powers and qualities of iodine are far from being yet understood, and every contribution on the subject is therefore a matter of interest and importance. We have placed the main facts brought forward by our author on record, and leave the profession to judge of their value for itself.

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EXPERIENCES SUR LE TRAITEMENT DES AFFECTIONS PUTRIDES—Experiments on the Treatment of Putrid Affections. By MM. LEURET and HAMONT.*

The study of morbid anatomy, notwithstanding the importance of the science to the medical practitioner, has tended, in some measure, as we before observed, to confine the views of pathologists respecting the general nature of disease. It has led some authors to conclude that all the affections generally termed *fevers* have their local habitation, either in the brain or in some other particular organ. But even morbid anatomy confirms the fact, that fevers of the same class do not always leave the same marks to be observable after death. In one case, the brain or its membranes may be found in a state of congestion, or of inflammation; in another, the lungs, or the pleura; in a third, the peritoneum, the mucous lining of the intestines, or of the air tubes, the liver, or any other organ; and in some cases no unequivocal marks of disease can be discovered in any part of the body. This being the case, surely there is no reason, according to the present state of our knowledge, to assign any one particular organ as the special seat of fever, to whatever class it may belong.

Conformably to the above doctrine of fever, all fevers are supposed to be of the same kind, or of the same essential nature, differing

only in degree, or intensity, according to climate, local situation, and other external causes. If this view of fever be correct, it follows that the laws of nature, in regard to health and disease, act in a manner perfectly contrary to the regular order of natural phenomena. Physical laws, insofar as we are acquainted with their operations, determine the effects by the causes which precede. It would follow from this, that fevers, as well as other diseases, produced by dissimilar causes acting upon constitutions similarly modified, must differ in kind and in their essential properties as much as one salt differs from another possessing a different base. If we observe the progress of infectious diseases, we shall find, invariably, that the same effects follow the application of the same causes. The syphilitic virus never produces small-pox, nor does the small-pox virus ever give rise to measles or scarlet fever. Thus, in affections whose causes are palpable, nature works in the regular order of causation, and the effects in every instance are such as experience or observation of the order of natural phenomena would lead us to expect. Now, have we any reason to infer that impalpable causes act under laws different from those which govern objects of sense? Or is there reason to infer that the properties of all impalpable causes are alike, that they should all produce the same effects? Such an inference cannot, surely, be drawn, if our senses are the only means in our possession by which we are to judge of the properties of external objects. We have no other means of judging of the properties of causes which do not form objects of sense, than by their phenomena in relation with sensible objects, or from analogy founded on our knowledge of the properties of causes cognizable to the senses. Now the phenomena of fevers differ in the same constitution, under the influence of the same climate, and in the same local situation, according, to the different causes which give rise to them. This fact would lead us to infer the existence of a difference in the essential, or (as some would call them) secret, properties of the disease itself. The symptoms of fever in general fully denote an affection of the system at large, and the symptoms of one species of fever are different in many respects from those of others.

Now, if the fever set up in the system as a consequence of the introduction of morbid effluvia be a general affection, it becomes an interesting subject of inquiry, through what medium is the subtle cause communicated to the various parts? It is evident that its first application is made to the surface of the mucous membrane either of the lungs or of the stomach, or both, or else to the surface of the skin. But the question respecting which much difference of opinion has existed is, does the morbid principle form its primary and chief relation, after becoming in contact with the mucous or the cutaneous tissue, with the extremities of the nerves ramifying on that tissue, and is it conveyed by these organs into the brain and from thence to the rest of the

* Journal des Progrés, &c.

system? or is it absorbed and conveyed into the blood, and through this medium distributed throughout the different tissues? So far as our knowledge of physiology and pathology extends, the phenomena of fever, from beginning to end, are not such as might naturally be expected to proceed from derangement of the functions of the nerves; and no examples of nervous disease can be adduced bearing strict analogy to fever. The functions of the cerebro-spinal nerves may be said to consist in conveying sensation and voluntary motion. With regard to time, each of these acts is accomplished in a very short space. From the nature of these functions, it might be expected that the symptoms of disease of the organs, or, which is the same thing, that a derangement of their functions, would bear some resemblance in their characters, as to time and other things, to their healthy phenomena. And, in fact, this is the case in nervous diseases, at any rate in those affections which are generally allowed to depend on the nervous system. For example, a fit of hysteria is sudden in its attack and short in its duration; so is epilepsy; so are the paroxysms of tetanus, of hydrophobia, of different species of convulsions dependent on cerebral irritation, catalepsy, &c. These affections bear certain peculiar characters which the mind associates with the functions of the nerves, but which, from the intimate relation and mutual dependence of the nervous and vascular systems, must, in some measure, modify, or even derange, the function of the latter system also. Again, substances which possess the properties of deranging and of destroying the nervous functions, when inserted under the skin, or applied to the surface of the mucous membranes, are very sudden in their action; whereas, morbid poisons, which are supposed, from pretty strong proof, to act through the medium of the blood, are comparatively slow in their operations.

From the foregoing facts, compared with the origin, progress, and general character of febrile diseases, the inference to be drawn from them is, that every part of the system bears its share in these affections, and that the cause, whether in the form of effluvia of different kinds, or in a more palpable form, is conveyed to the different seats through the medium of the circulating fluid. Several facts tend to prove that this fluid is subject to disease, and, as this is the case, it is nothing extraordinary that the functions of all the organs should manifest derangement under such circumstances. It has been supposed of late years that the constitutional symptoms which proceed from the exposure of the cavity of chronic abscesses depend upon inflammation of the lining membrane, and that the affection of the system is merely symptomatic of the local irritation. But the fact that the cyst of the abscess is in a state of inflammation before it is exposed to the atmospheric air, and yet that no severe constitutional symptoms take place, would render it probable that the symptoms which occur afterwards

proceed from the absorption of some deleterious substances into blood. We shall now proceed to notice the facts adduced by MM. Leuret and Hamont, to prove that the system is liable to be so affected when putrid substances are introduced into the vascular system, and that the general system may be again relieved from these effects by the abstraction of blood, so far as to enable it to resume its healthy functions. We have often argued in favour of the probability that abstraction of blood would prove beneficial in all diseases of a putrescent tendency, if this could be done without reducing the system so far as to render it incapable of keeping up the function of respiration, and some other functions upon which vivification immediately depends. We have also maintained that the benefit arising from loss of blood under such circumstances does not obtain according to the principle that blood-letting tends to reduce inflammation, but that it is a means of depriving the system of a part of the morbid cause upon which the general derangement depends, and which acts through the medium of the blood.

MM. Leuret and Hamont observe, that after having caused the death of a great number of horses by the injection of putrid matter into the veins, they have been led to conclude that the death of these animals could not be attributed to a local affection of an inflammatory nature, for they could not discover constant and incontestible traces of inflammation after such experiments. In the greater number of cases the nervous system was healthy, the heart, the organs of respiration and of digestion presented only some ecchymoses, or slight sanguineous effusions: the internal surface of the large vessels, and particularly that of the aorta, and of its primary divisions, was sometimes red, but this colour was rarely discovered immediately after death; it was merely found in bodies examined a certain number of hours after the death of the animal. Considering, likewise, that the matter employed had been injected, not into a circumscribed part, but into a large venous trunk, and that it became, consequently, mixed with the mass of blood, with which it was conveyed to every part of the body, MM. Leuret and Hamont deem it impossible to believe otherwise than that it gave rise to a general affection. Being afterwards assured that the observations furnished by numerous examples of morbid affections were analogous to those produced by the injection of morbid matter, and having communicated carbunculous disease by means of transfusion, they could no longer doubt that the blood was susceptible of becoming vitiated.

Having arrived at this conclusion, MM. Leuret and Hamont began to turn their attention in search of some curative means by which the alteration of the blood might be destroyed. They found that numerous authors, such as Mercatus, Massa, Forestus, Botal, have employed bleeding with success in the treatment of the plague, and that Sydenham, considering the blood as the seat of this

malady, advised the same practice; they, therefore, deemed it proper to commence their inquiry by subjecting this treatment to the test of experiment. They consequently produced an alteration of the blood by mixing putrid matter with it, and when the symptoms had become sufficiently manifest, as indicative of a general affection of the system, they had recourse to blood-letting, unaided by other remedies. The following are the details of their experiments:—

Experiment 1.—October 4th, at two o'clock in the afternoon, about two drachms of pus, diluted with water, were injected into the jugular vein of a horse affected with chronic catarrh. The vessel was previously isolated, and immediately after the injection it was tied, both above and below the incision. 5th. General debility; head carried low; loss of appetite; the eyelids covering the eyes; conjunctivæ infiltrated; temperature of the body elevated; pulse frequent, full and tense. 6th. Trembling of the whole body; head always low; eyes shining; respiration frequent; pulse hard, sixty in a minute; mouth hot and dry; the animal drinks little; excrements appearing natural. *Bleeding, nine pounds;* the blood is of a dark purple colour, and very hot. An hour after the bleeding the animal appeared less affected. He voluntarily ate some bran and straw. The pulse remained frequent during the day. 7th. The trembling is gone; head not so low; the eyes are less shining than they were before; the pulse is hard, beating sixty in a minute. *Bleeding, eight pounds; bran-water, straw, and hay.* The pulse became fuller during the day, and, at the same time, diminished in frequency. The animal was less oppressed. 8th. He lay during the night; he both ate and drank; he voided some excrement, which was in the natural state; respiration free and easy; pulse small and frequent. *Bleeding, five pounds; the same regimen as before.* On the 9th and 10th the animal continued to mend, and by the 12th, that is to say, eight days after the injection, his health was completely re-established.

It will be observed, that in this case the treatment employed had a marked influence on the progress of the affection produced by the injection of putrid matter. Animals submitted to experiments of this kind most commonly sink under them; but the horse which formed the subject of the above survived it, although the symptoms made their appearance with great promptitude and severity. An amendment was remarked to have taken place an hour only after the first bleeding; and although no other remedies than blood-letting were had recourse to, the animal perfectly recovered. From the nature of the case, and the severity of the symptoms at the commencement, MM. Leuret and Hamont do not hesitate to say, that its termination would have been very different had it been allowed to take its own course.

Experiment 2.—October 11th, at six o'clock in the afternoon, two drachms of very fetid

pus, diluted in a small quantity of water, were injected into the jugular vein of a strong horse affected with chronic catarrh. On the morrow morning the animal appeared oppressed; he held his head low; eyelids tumefied; eyes clear and shining; the mouth hot and dry; the mucous membrane red; pulse tense and frequent; skin very hot. 13th. His manner is stupid; eyes bleared and less brilliant; mouth not quite so hot as yesterday, a little glutinous; pulse regular, but rather hard, beating fifty-seven times in a minute. The animal ate some hay, but did not drink. The excrements appeared natural. *Bleeding, eight pounds; bran-water and hay.* During bleeding the pulse became enveloped, and when the bleeding was over, the pulsations were sixty-four in a minute. The blood, examined on the morrow, presented a very firm coagulum, covered by a thick crust, it had scarcely any serum. 14th. The animal shows less oppression; the eyes are no longer bleared, but rather turbid; pulse hard, without intermission, beating sixty-five times in a minute. The animal eats voluntarily; the mouth is moist and slabbering; excrements natural. *Bleeding, nine pounds.* The blood at first was of a bright red, but towards the end of the bleeding it became dark coloured. After coagulating, it had the same appearance as the former blood, only that the quantity of serum was rather greater. The pulse became developed during the bleeding; it beat during the day as much as eighty times in a minute. The mouth is hot, less humid; oppression augmented. 15th. All the symptoms have much diminished; the pulse is scarcely frequent; alvine evacuations during the night, which present nothing particular. About two o'clock the oppression returned, not so severe, however, as yesterday; the pulse developed, more frequent and irregular. 16th. He carries his head low; somnolence; yellowness of the conjunctivæ; mouth humid; pulse frequent; temperature of the body rather elevated. *Bleeding, nine pounds.* The blood was of a bright red colour, and remained a long time fluid; when coagulated, it presented rather more serum still than the second blood: immediately after the bleeding the pulse increased in frequency. In the morning of the 17th, the animal was less oppressed than the evening before; he lay down; pulse still frequent, and irregular. *Bleeding, nine pounds.* Blood of a vermillion colour; it gave out a great quantity of serum on coagulation; the crust yellow, but thin; the pulse became elevated and frequent during bleeding. 18th. The animal does not carry his head so low as he did; appetite returning; pulse less frequent, regular; eyes more natural; conjunctivæ of a rose colour; mouth cool. From this time the horse continued to improve, and on the 23d, recovery was complete.

Experiment 3.—Two drachms of purulent matter, taken from the same source as that used in the second experiment, were injected into the jugular vein of a strong horse on the 12th of October.—13th. The animal appear-

ed stupid and oppressed; eyes bleared; temperature of the body elevated; pulse developed, beating fifty-five times in a minute; little appetite; no thirst; excrements appearing natural. *Bleeding, seven pounds.* Blood very red; when coagulated, it presented a very thick crust, and contained but little serum; pulse became developed during the flow of blood, beating sixty times in a minute. 14th. Less oppression; redness of the conjunctivæ, with slight ecchymosis; eyes rather bleared; mouth slightly hot, but moist; buccal membrane of a rose colour; appetite; excrements natural; pulse full, but regular; temperature of the body rather higher than natural. During the day the animal did not eat any; the pulse beat fifty times in a minute. *Bleeding, eight pounds.* Blood red and hot; the coagulum still presented a thick crust, and gave out but little serum. The pulse acquired frequency during the flow of blood. 15th. Amendment very obvious: the oppression has nearly subsided; the animal eats with avidity some bran presented to him; temperature of the body natural; pulse rather frequent; conjunctivæ in the same state as before. He continued to improve from this time, and the recovery was complete on the 20th, with the exception of a slight elevation of the pulse, which, also, soon returned to its natural state.

MM. Leuret and Hamont remark, that the same cause in different animals does not always produce effects perfectly similar, because they are differently organized in some measure, and their constitutions differ in modification. Although the symptoms produced by the injection of purulent matter into the veins differ in the degree of their intensity in different animals, still they are the same in kind, and bleeding appears to exert a decided influence over them. The disease in the second case lasted eleven days, and the treatment was continued for nine days; whereas, in the third experiment, the animal was well by the eighth day. In the third case, also, the symptoms did not acquire the same intensity as in the first, and particularly the second. What could be the cause of this difference? MM. Leuret and Hamont think it may be accounted for by the circumstance that bleeding was not had recourse to in the first and second cases until the third day, thereby allowing the morbid cause time to produce great alteration in the blood, as well as derangement of the organic functions; whereas, in the third case, bleeding was performed on the second day, before the poison had sufficient time to derange the function of the different organs to the same extent.

If it were asked, say the authors, in what manner bleeding cures, many would answer, that it is by acting as an antiphlogistic. But, is it an inflammation that we have to treat? The answer to this question is to be founded upon an examination of the symptoms, and the morbid appearances observable in the bodies of animals into whose veins putrid matter has been injected. The symptoms are not those of encephalitis, of pneumonia, of cardi-

tis, of gastro-enteritis, &c.; and the lesions discoverable after death, in the greater number of instances, consist of nothing more than ecchymoses. It is, doubtless, possible that, in certain cases, the disease has some complication of an inflammatory nature; but it is equally true that this complication is always ruled by the general nature of the malady. M. Gaspard has observed that dogs upon which he experimented had often critical alvine evacuations; this is a further proof in favour of the existence of a general disease, since these evacuations announce the approach of health. If it is not upon the principle of subduing inflammation that bleeding acts in these cases, are its successful results attributable to the depletion of the vascular system, or to the evacuation of a certain portion of the altered blood from that system? It certainly produces this depletion and this evacuation. But how these effects contribute to bring about recovery is a problem which they have not attempted to solve. Therefore, without attempting to explain things which they consider themselves unable to penetrate, they arrive at a conclusion which appears necessarily to follow from the experiments, namely: that when bleeding has sufficed in the treatment of a disease, it does not follow that that disease was of an inflammatory nature. Bleeding was formerly practised with the view of evacuating the diseased blood; it is practised at the present time with that of averting or of combatting inflammation. Under similar circumstances, the practice remains the same among all well-educated physicians. The explication differs, but the successes are numerous, inasmuch as the case does not result from the hypotheses, but from remedies, the virtues of which experience has demonstrated.

To prove the effects on the constitution of other substances than putrid pus, M. Leuret inserted portions of carbuncled tumours into the cellular membrane of horses, in order to allow the system to become affected by absorption of the diseased matter. These experiments were followed by considerable local tumefaction, intense pain, and a discharge of fetid ichor from the wound. To these symptoms succeeded others of a more grave character. The pulse became weak, frequent and intermitting; respiration laborious; yellowness of the conjunctivæ; lippitude of the eyes; the walk became feeble and tottering; rumbling of the bowels; alvine discharges frequent and fetid; appetite continued for some time. These symptoms went on increasing in intensity, and were followed, in a longer or shorter time, by death. On examination of the bodies after death, independently of the local affection, the tissue of the heart was generally found softened, and its external surface ecchymosed along the course of the vessels; ecchymosis of its internal surface, especially in the left cavities; the parietes of the large vessels were generally found healthy, but sometimes of a reddish colour; the blood was commonly fluid; some-

times in black or whitish yellow coagula, but very soft; the lungs emphysematous, strewed with ecchymoses, and presenting dark-coloured spots; dark streaks along the vessels of the external surface of the digestive canal; its internal surface ecchymosed; that of the small intestines injected and red in places, especially in the situation of the follicular glands; liver and spleen friable; the urinary passages healthy; the cellular tissue surrounding the kidneys emphysematous; nervous system healthy.

These morbid appearances are the same as those observable in cases where the disease takes place spontaneously. M. Leuret endeavoured to determine, by chemical analysis, whether or not the blood itself be effected in such cases. He submitted to the same chemical process, blood taken from an animal labouring under the malady in question, and blood taken from a healthy animal: the products were the same both in nature and in quantity; so that these experiments did not furnish a solution of the question. M. Leuret next thought of allowing the two to putrefy; the result here was, that the blood taken from the diseased animal appeared to decompose sooner than the other, at least carbonic acid was disengaged from it thirty-six hours sooner than from that taken from the healthy animal. This experiment, however, was not satisfactory, for the prior disengagement of the carbonic acid from the former might have taken place in consequence of its possessing less cohesive property than the latter, and this acid might have been only that which the blood naturally contained. But M. Leuret should have considered that there must have been some cause to determine the carbuncled blood to be less cohesive than that obtained from the healthy animal. However, he proceeded to solve the question by a different process, namely, by transfusing the blood of a diseased horse into the veins of a healthy one. The result was, that the animal subjected to the experiment fell ill, died, and presented, on dissection, all the appearances already described. From these facts, therefore, it would appear that the blood was altered in its condition, and that it possessed the property of imparting the disease to a healthy animal; but, what the alteration consisted in, or in what chemical properties did the fluid differ from healthy blood, could not be determined.

From the Medico-Chirurgical Review.

COMMENTARIES ON THE CAUSES, FORMS, SYMPTOMS, AND TREATMENT, MORAL AND MEDICAL, OF INSANITY. By GEORGE MAN BURROWS, M. D., &c. &c.

It was high time that England should produce a work on *insanity* which would concentrate the lights that have been thrown on that dreadful malady by various pathologists and practitioners, during the last twenty years.

Till the appearance of the work at the head of this article, there was no systematic treatise on the subject of mental derangement, in the English language, which was at all on a level with the progress of pathology in Europe, and therefore Dr. Burrows' attempt to supply the deficiency is meritorious, and the result will be beneficial to the profession in this country. Insanity is a disease so obscure in its nature, and so untoward in its manifestations, that the great mass of medical practitioners consider it as one of those which ought to go at once to the asylum, and, therefore, they do not study it with that care which is expended on the common diseases of routine practice. This circumstance may have contributed to retard the progress of mental pathology in this country—for, it is not to be concealed that medicine, in all its branches, and in this one particularly, is become a *trade* as well as a science here. How few professed oculists, aurists, or dentists, *publish* on the subjects of their especial pursuits—except in the newspapers, or in works where the *means* are concealed, though the end occasionally becomes manifest!!* What information, on the interesting subject of insanity, have we derived from the accumulated experience of the numerous physicians and surgeons in these islands, who devote their time and talents *exclusively* to this melancholy class of afflictions? Dr. Haslam, on resigning the seals (or at least the *scales*) of Bedlam, favoured the world with some observations on sound and unsound mind; but there was rather too much of philosophy and metaphysics mixed up with the Doctor's practical remarks, to render them as useful as they might have been, considering the field which had been open to the author for investigation. Since Dr. Haslam's book appeared, there has been nothing published in this country which deserves particular notice, although many valuable monographs issued from the press on the continent, during that period. Pinel, Esquirol, Georget, and many other writers, have greatly enriched this field of medical science, which has lain nearly waste in the land where insanity is said to thrive better than in any other region of the world.

It is well known that Dr. Burrows, more than ten years ago, issued proposals for the publication of a large work on insanity. We know not whether to congratulate or condole with the author, on an accident which happened to his manuscripts when nearly ready for the press. By one "*COUP DE MAIN*" of a thief, the whole of his literary researches were swept away! We should have liked to see the *PHRENZY* of the *SPOILATOR*, on opening the large desk, with which he leisurely marched out of the front door of the Doctor's house, in open day. Instead of *BANK-NOTES*,

* By the expression "*few*," we admit some honourable exceptions to the general rule—a rule which applies still more strongly to the treatment of insanity than to the treatment of any other class of affections.

he only found "NOTES ON MADNESS!" To what purpose these notes were afterwards applied, has never been ascertained:—But we verily believe that both the author and the public will be benefited by the operations of the thief. Learning may have lost—but knowledge has been gained by the accident. Dr. B. could have had but little personal experience, ten years ago, as compared with the present, in the science and treatment of insanity. The loss of his manuscripts has thrown him more on his own resources, and it would be well for MEDICINE if a thief were always in the way, when an author first steps out to have an interview with that important personage, the printer?

Dr. Burrows has divided his work into five parts, and each of these parts are subdivided into commentaries. We can see no real necessity for the division into PARTS, because there are no natural distinctions between them—the commentaries being quite sufficient for localising the various points of discussion.

The FIRST PART, occupying 245 pages of letter-press, and embracing the important subject of ETIOLOGY in all its various bearings, together with commentaries on the states of the nervous and vascular systems—hemorrhages, complications of insanity with other diseases, metastases, consequences, &c. would, in strict justice, demand an entire article in our Journal. Fifteen years' exercise has not opened to us the ROYAL ROAD TO REVIEWING. We cannot despatch a large volume in two or three pages according to the modern "MARCH OF INTELLECT," which indeed is more like the aerial flight of a balloon than the sober pace of literature or science. In these *gazeous* excursions, the land may be distinguished from the water—the mountain from the valley—or perhaps the city from the country; but all other and minute features of the scene are veiled from the sight. It is so with MODERN REVIEWING. Instead of exhibiting the minute features of a work, not even the leading characters are portrayed. In short,—to eulogise or condemn a publication, unread—if not unseen—is no uncommon practice in these days of venality, licentiousness, and personal rancour.

We shall not dwell on the "INTRODUCTION" to the work, nor inquire whether "madness is one of the curses imposed by the wrath of the Almighty on his people for their sins. Dr. B. we understand has been censured for this expression, having forgotten to give his authority (Deuteronomy) for it, and consequently appearing to give it on his own. With all due respect for the Doctor, as well as for Deuteronomy, we do not believe that the Almighty ever afflicted one of our fellow-creatures with madness, the Heathen authority to the contrary notwithstanding:—

Quem DEUS vult perdere prius DEMENTIT.

The antiquity of madness is pretty high, since SAUL was in that condition, and appears to have been cured of melancholia by the music of David's harp. That the disease had multi-

plied between the days of David and Horace is sufficiently evident from the satirical allusions ("insanire omnes") of the Roman Poet. But these matters must be all left on one side, while we proceed to more important considerations. After exposing the absurd attempts to investigate the nature of insanity as a purely *mental* disorder, Dr. B. quotes a passage from BACON, which shows that he clearly saw the true path of investigation. Speaking of disorders of the mind, "the absolute source, if carefully developed (says he) will be found to exist in *corporeal changes*, or the effects of external agents acting on the *gross machine*, and not primarily on the immaterial principle, as has, unfortunately for the subjects of disease, been too commonly apprehended." It is rather mortifying to think that, even in the year 1827, it was publicly maintained in some of our best medical societies of this metropolis—and by men who are charged with the instruction of medical youth—that insanity might exist as a purely mental disease, and quite independent of corporeal disorder!! This fact proves how ill understood is the subject of insanity, even among the better informed classes of the profession.

COMMENTARY THE FIRST—MORAL CAUSES.

The causes of insanity are now pretty generally agreed to be moral and physical.

"Every impression on the sensorium, through the external senses, and every passion in excess, may become a moral cause of insanity. Thus all, however opposite, act as exciting causes, and will produce this result: joy and grief, anger and pain, love and hatred, courage and fear, temperance and ebriety, repletion and inanition, application and indolence, may have the same effect. Vices, also, which occasion changes in the physical constitution, act as remote moral causes, and induce mental derangement." 9.

All moral impressions affecting the feelings act first on the brain and nervous system—then on the heart and vascular system, which latter react on the former:—

"Hence there are two impressions: the one primitive, affecting the sensorium; the other, consecutive, but simultaneously affecting the heart. Thus the nervous and vascular systems are both implicated; and in this manner moral impressions become causes of insanity. The moral cause, therefore, is always the remote cause; the physical, the *proximate*, or that state of the cerebral functions which immediately precedes the peculiar action denominated maniacal." 10.

It is easy to see—or, at least, to believe, that this play of sympathies, or action and reaction of the two systems, nervous and vascular, must disturb the functions of both—and even affect their structure if long continued or excessive in degree.

It appears that the upper classes of society

are rather less subject to insanity than the lower. The *former* suffer more from the moral causes—the latter, from the *physical* causes of the disease. In respect to the indigent classes, Dr. B. avers that the majority of cases of insanity, in them, “originate in direct *physical* causes, which the privations, and consequent misery, the poor suffer in all countries, as well as their vices, greatly multiply.” Dr. B. does not seem to have been able to connect insanity with trades or professions—but acknowledges, with Rush, Pinel, Hallaran, and others, the powerful influence of political or civil revolutions of states, in the production of mental alienation.

The question now presents itself—do these moral causes, say grief, terror, jealousy, &c. operate *directly* on the mind, and induce mental derangement?—or must there always be an intervening corporeal disorder?—We would incline to the latter position, and it is evident that Dr. Burrows is of a similar opinion.

“All emotions of the mind, it is evident, are capable of disturbing the corporeal functions; and though in themselves moral causes, they become physical in their operation. Hence physical causes grow out of moral causes, and these frequently lead to insanity; *not, however, by direct impressions on the organ of the mind, but through the means of those morbid changes in the system which they gradually affect.*” 22.

Thus, then, insanity is a corporeal disease, and the manifestations of the mind are disordered because the organ of the mind is disordered.

The following passage will probably excite some criticism.

“Could we imagine a human being void of all feeling, moral or religious, mental derangement is not there to be expected through a moral cause. But even where reason is wanting, instinct prevails; and brutes have their passions, which, when excited to excess, or thwarted, produce madness.” 23.

If by madness Dr. B. merely means a temporary furor (*ira brevis furor est*) then we agree that a horse or any other animal is liable to madness; but we question whether *BRUTES* are ever insane, in the common acceptance of the word. Monomania is the most frequent of all forms of insanity—and can Dr. B. prove that a brute has ever evinced insanity on a *single point*, being sane on all others?

In the second Commentary Dr. Burrows discusses the knotty point whether *RELIGION* should be looked upon as the cause or the consequence of insanity. Dr. B. properly remarks that any single passion, excited to excess, may induce mental derangement—and consequently *RELIGION*, “which influences the internal man more than the passions collectively, may be a cause of insanity.”

“On the other hand, there is no doubt, that a lunatic may imbibe a religious as well as another hallucination, and yet be insane from a cause the reverse of religious. In the

one case, however, it is a cause; in the other, an effect.

“Now a great source of error seems to arise from the confounding of this necessary distinction.

“Medical writers who have derived their chief experience from public practice, are most apt to err in this particular. The previous history of lunatics admitted into public asylums is rarely known; therefore the moral cause of the malady is frequently inferred from the tenor of their mental aberrations; than which nothing can be more deceptive. Hence it is to be feared, that many cases have been hastily attributed to a religious origin, merely because the conduct or conversation of the lunatic has exhibited traits of too vivid spiritual impressions. In private practice the opportunities of obtaining this essential information are superior; and upon a point of such serious importance, I have not omitted to avail myself of them.” 25.

This is, perhaps, the true state of the case. We find a certain proportion of lunatics in an asylum harping on some religious topic, or fancying themselves deities of an upper or lower region. A hasty observer would attribute all these instances of monomania to religious meditation. It is probable, however, that one half of them were merely what is called “serious people,” who being exposed to some of the various causes of insanity, exhibited, when insane, a religious hallucination. But as deep meditation on the mysteries of religion tends, in general, to perplex and bewilder the strongest intellect, we may easily conceive that an ignorant person, tinged perhaps with superstition, bigotry, or fanaticism, would readily become deranged in mind by lucubrations so unfitted for his intellects. Dr. Burrows appears to labour hard to show that *pure christianity* never leads to madness—but, “that it is from the *perversion* of it that many become the victims of insanity.” We conceive that this is “splitting hairs”—or rather, “cutting blocks with a razor.” It is the same as proving that no man is ever injured by medicine, but only by the perverse administration thereof. Thus, a man takes too large a dose of emetic tartar, and dies. Dr. Burrows would say, ’twas not the tartrate of antimony that killed the man, but the mal-administration of the remedy. But granting that it is the *perversion* of christianity which leads to insanity, who is to be the arbiter of this perversion?

“Who can direct, when all pretend to know.”

We confess that we do not clearly comprehend the drift of the following passage—though we are ready to admit that the want of comprehension is attributable to our own astuteness of intellect.

“But, although this be admitted, there is not a tittle of evidence to substantiate, that Christianity, abstractedly, ever produced that effect. Such accusations are the abortions of infidelity, or of those who lack knowledge. Religion may have been reproached by care-

less observers as the source of mental derangement, because it is often associated with misery;—for affliction induces many earnestly to seek religious consolation, who previously never thought of it, or who but mechanically followed its outward forms. In minds broken down by adversity, and little acquainted with its genuine precepts, a consequence, opposite to that which was sought and expected from religion, sometimes ensues: in this case the moral feelings have greater force than the spiritual, and the disappointment is not the default of the principles of the Christian faith.

“Constitutional temperament also interposes, and often distorts the truth; and thus generates an opinion, that melancholic insanity is the effect of religious impressions. Minds so framed view all the blessings of this, or a future life, by involution. Their greatest gratification is persistive despondency. Deaf to precept or example, they retort:—

“Go—you may call it madness—folly—
You shall not chase my gloom away;
There’s such a charm in melancholy—
I would not, if I could, be gay!”

But we shall leave this subject—convinced as we are, and even at the risk of being called infidels or ignorantes, that religious meditations, with the best intentions, precipitate many a mind, weak and strong, into the gulf of madness. This, indeed, is admitted plainly enough by Dr. B. himself at the end of the commentary.

“Were I to allege one cause which I thought was operating with more force than another to increase the victims of insanity, I should pronounce, that it was the overweening zeal with which it is attempted to impress on youth the subtle distinctions of theology, and an unrelenting devotion to a dubious doctrine.” 56.

COMMENT. III.—PHYSICAL CAUSES.

We now come to more tangible, but not less debateable ground. Dr. B. justly observes that “the great obstacle to the knowledge of the pathology of insanity, has been the long-prevailing error of studying the *mental* to the neglect of the corporeal phenomena which are *almost always cognizable*.”

“The hallucinations of the mind being clearly only the signs of *its* disorder, as symptoms are of corporeal disorders, they are but of secondary importance in the study of insanity.” 59.

Here Dr. B. falls into the usual error of attributing disease or disorder to the *mind*. If the mind be immaterial, it cannot be subject to disease. If material, then it is a part of the body, and the cause of disorder is still material. A patch of erysipelas on the skin, or a thorn in the foot, will cause delirium, in which the functions of the mind are as completely deranged, to appearance, as in raging insanity. Yet, who would say this is a disorder of the immortal mind? Is it not clearly a disorder of the body perverting the manifestations of the mind? We perfectly agree with

Dr. B. that it is useless—worse than useless, to dwell on the *mental* aberrations. Of what consequence is it, whether the lunatic fancies himself a god or a devil—a philosopher or a conjuror—a tea-pot or a tiger? Ought we not to prefer examining the various signs which indicate *functional* or *structural* lesion? It is useless to go over again, with Dr. Burrows, the discrepancies between the material and immaterial doctrines of insanity. Dr. B. in commenting on Mr. Coombe, makes use of the following expression.

“Can any comparison be endured between the *divine immaterial function of the brain*, and the palpable and material functions of other parts of the human body.” 65.

The *divine immaterial* functions of a mass of *matter*! The *palpable* functions of other parts of the body! Has Dr. B. ever seen or fingered the *function* of secretion, for example? We can see *blood* going to the liver, and we see *bile* coming from it;—but if any man ever saw the *function* of secretion, by which the one is converted into, or separated from, the other, we are ignorant of his existence. On the contrary, we fearlessly maintain that the secretion of bile in the liver is just as great a mystery to us, as the secretion of Paradise Lost from the brain of Milton.

In this country, Dr. Marshall appears to have been the first who conceived that insanity might be a corporeal disease, and dependent on disease of the brain. For this opinion he was violently assailed by the late John Hunter. To support his doctrine, Dr. M. made many dissections at the Old Bethlem; but his *Morbid Anatomy of the Brain*, in mania and hydrophobia, was not published till 1815, after the author’s death. Haslam’s dissections preceded (in point of publication) those of Marshall. Both tended to illustrate the subject of inquiry, “and fully prove a morbid condition in the encephalon of the maniacs submitted to their inspection.”

“However, when it was proved, beyond dispute, that the brains of maniacs commonly presented morbid appearances, it was assumed—that these alterations were the causes of the disorder; but it was soon objected, that such were the effects, and not the causes, of intellectual derangement. Among these sceptics were Crowther, Black, &c., and their doubts coincide with the opinion of many eminent physiologists who have since entered upon the inquiry. Others, while they cannot yield acquiescence in these conclusions, admit them with certain modifications.” 69.

Bonetus, Morgagni, and other anatomists, indeed, had not been able *always* to find corporeal disorder in the heads of maniacs—and such is the case with modern pathologists.

“I have myself (says Dr. B.) assisted at several accurate anatomical investigations, conducted by eminent demonstrators, of the crania of insane patients who have been under my care, and who had exhibited up to the hour of their disease the most furious symptoms of mania for months, and yet not a vestige of disease could be traced.” 70.

But, as Dr. B. properly observes, we are not in a condition to *know* when disease exists in the brain. Could any one *detect* the changes which obtain during functional disorders in the brain and other organs? No, indeed! And yet there must always be some change in a part corresponding with the functional disorder of that part, however incapable we may be of detecting it by the scalpel.

"This, however, is certain—that when an insane person has been cut off by an acute disease or accident, or has destroyed himself, and the insanity has been of short duration, there are seldom exhibited any alterations, or morbid appearances in the encephalon, beyond slight vascular congestions or effusion. But in long-standing cases, a *post mortem* examination generally exhibits strong evidence of disease in that organ. Sometimes, however, violent insanity has continued for years, and not a visible trace of diseased structure or action has been discovered in the brain or elsewhere." 71.

Dr. B. asks, "is not the human body subject to, and influenced by peculiar diatheses?" He refers to the apoplectic, hydrocephalic, scrofulous, and gouty diatheses, which may exist without any appreciable change of structure.

"Were we to insulate a portion of a dead body, and examine its texture, without a previous knowledge of the disease affecting the person while living, could we decide what disease had existed? Why, therefore, should not the brain be influenced by the same laws, and undergo a specific change, and be the site of disease of which there is no visible trace? Why, in fine, should we expect to discover by the eye the maniacal diathesis, when all others are impenetrable?" 73.

Dr. B. asks farther:—"who can say that excitement, nay inflammation itself, has not existed in the brain, if the circulation through a great part of it is, as it is said to be, colourless?" A morbid action, as we before observed, of other important organs is indicated by appropriate symptoms; and yet, on dissection, the organ suspected often appears sound. It is so with the brain. It may be, and is, incapable of manifesting correctly the operations of the mind, long before its disorder is appreciable by the senses.

To argue, as some have done, that, as there is no appreciable lesion of brain in insanity, so there is no use in directing any material remedies to the body, is sheer nonsense. The same argument might equally be applied to all other diseases. They are at first functional, and the appreciable change is a subsequent process.

In respect to the changes actually found—and we believe they will be found in at least four cases out of five—after death, there is no doubt that some of them are *post mortem* changes, and therefore not to be considered either as causes or effects of insanity. Serous effusion may be instanced in illustration.

"Much important information may be elicited from the labours of men possessing such

extensive opportunities as Greding, Esquirol, Georget, Neumann, &c. And the collection made by Dr. Scipion Pinel, embracing those of Messrs. Esquirol, Villermay, Beauvais, and Schwilgaé, and which, in the aggregate, comprise two hundred and fifty-nine dissections of maniacs, offers a mass of pathological examinations particularly worthy of record. They are thus classed:—

"*Lesions of the Brain.*"

"Apoplexy	-	-	-	27
Organic lesion of the substance of the brain	-	-	-	19
Organic chronic lesion of the membranes	-	-	-	22
				— 68

"*Lesions of other Organs.*"

"Chronic peripneumony	-	-	-	20
Phthisis	-	-	-	22
Chronic peritonitis	-	-	-	9
Chronic pleuritis	-	-	-	7
Chronic inflammation of the digestive canal	-	-	-	50
Other organic lesions of this viscus	-	-	-	13
Lesions of the liver	-	-	-	5
_____ kidneys	-	-	-	3
_____ ovaries	-	-	-	2
_____ uterus	-	-	-	4
				—135
				203

"In the other fifty-six corpses there was no visible evidence of disease in any of the viscera of the three great cavities! The spinal chord was examined in only two cases.

"From these dissections it follows: 1. That lesions of the brain, the organ of the intellectual functions, are in the proportion of one to two of those of the other viscera; 2. That more than *one* in *five* corpses of maniacs present no evidence of any disease whatever! 3. That in a great majority of cases, the insanity was a sympathetic affection; and, 4. That as, in more than a fifth of 259 dissections, no lesion or alteration could be detected, it strongly corroborates the opinion, that, when such lesions or alterations are observed, they are posterior, and not anterior, to the development of the mental derangement." 75.

Certainly they are posterior. Take the pleura, the peritoneum, the stomach, the liver, or any other organ. The disorder of function always precedes the change of structure. In the brain this is peculiarly the case, from the multiplicity and spiritual nature of its functions. But, as our author observes:—

"From whatever predisponent cause insanity may proceed, if it be not primarily an organic affection of the brain, it ends in being so. This seems demonstrated by the facility of its cure at the beginning of an attack of mania, comparatively with the attempt made at a more protracted period." 76.

Although absurd speculations have been entertained respecting the character of the living, as ascertained by the appearances of the dead brain; yet one thing is certain, that

"in the brains of connate fools, some defect or anomaly is *always* discovered, from which it might be inferred, that for the mind to be perfect, the organ of the mind, *ab origine*, must also be perfect." This is a natural enough conclusion—and although men have appeared to be possessed of *perfect minds*, whose brains were found imperfect after death, yet it by no means follows that the cerebral fault occasioned no corresponding defect in some of the mental faculties. Thousands, nay millions of men are going about, in the enjoyment of complete sanity of mind *apparently*, who are nevertheless, as decided *MONOMANIACS* as ever entered the walls of Bedlam. We need not travel out of our own profession for examples. There are maniacs writing in our medical journals—maniacs lecturing in our public theatres—maniacs editing the productions of maniacs—and maniacs reading and listening to the effusions of madmen! The senate, the pulpit, the bar, offer similar examples.

Dr. Burrows enters into a slight criticism on the doctrines of some of the Continental pathologists, who think they have discovered a certain correspondence between organization and insanity. Thus M. Bayle maintains that mental derangement, in a majority of cases, is the result of positive chronic inflammation of the membranes of the brain.

"He describes two kinds of inflammation, each having perfectly distinct anatomical characters and symptoms; the former he denominates chronic or latent *arachnitis*, because it principally has its seat in the arachnoid; and the latter, *chronic meningitis*, because it conjointly affects the pia mater as well as the arachnoid membrane. The latter affection, he asserts, is so uniformly attended with incomplete paralysis, that of 1453 cases of mental alienation, a fifteenth of the men, and a twenty-eighth of the women, were affected with this symptom." 78.

This author is confident that he is able, not only to connect specific symptoms of mental disorder with specific morbid conditions of the encephalon, but also to show that, in a great proportion of cases, the commencement of the mental disturbance is to be imputed to a chronic disease of the membranes, of which he describes the forms, stages, and complications.

"He concludes, that the kind of mental alienation he has described is the effect of the irritation or inflammation of the gray substance of the brain, which immediately deranges its functions. This irritation and this inflammation are in their turn direct results of a chronic inflammation of the membranes, which commences on their internal or cerebral face.

"Of one hundred dissections of the brain, he did not meet with a single exception, he says, to the diseased appearances which are connected with the symptoms of this form of mental disorder." 80.

CALMEIL has pursued a similar route, and drew his observations from the same public

establishment—the CHARENTON.* There are some discrepancies of opinion, and even of facts, between these two authors—and though "it is impossible not to suspect that too much enthusiasm and aptitude for theory have influenced the pursuit—and that extraordinary facilities for morbid examinations sometimes tend more to encourage speculative theories than to advance truth," yet we cannot but lament that the *overflowings* of foreign zeal do not sometimes make their way into this country. Considering the strong tendency in the human mind to theorize, it is full as likely that those men should run into false doctrines who have no pathological data to direct them, as that men who are constantly comparing symptoms with dissections, should wander into the wilds of imagination. M. Bayle has been supported by Falret, as well as by MM. Calmeil and Voisin, and our author confesses that—"though sceptical, he is bound to consider that the evidence is respectable." We need not dwell on the opinions of many authors, as Vogel, Dumas, &c. &c. who considered insanity to depend on inflammation, chronic or acute, of the cerebral substance itself.

"I see no reason (says Dr. Burrows) why a state of irritation, or morbid action of the brain distinct from inflammation, should not obtain, and produce disorder of the intellectual faculties, as well as the more violent action of inflammation.

Irritation, too, is not irrationally assumed to be the parent, or initiatory step to inflammation; for irritation primarily affects the balance of the circulation, and the impulse once given augments it, and induces reaction. Hence the nervous and vascular systems act and react on each other; and hence various diseases originate. Irritation, too, like inflammation, may have its varieties; for, in one part or texture, it may be excessive—in another, it may never arrive at activity—or either may exist in a part or organ in different degrees of activity." 85.

The examinations of the brain having proved unsatisfactory, pathologists have directed their attention to other viscera of the body, with the hope of being more successful. As in the brain, they discovered traces of disease in the heart, liver, stomach, uterus, &c. and thence drew their respective conclusions. Esquirol found a peculiar condition and position of the colon in many maniacs, and thought that this might operate as a sympathetic cause. But it has been found in men who had not been insane—and, in fact, it is rather a rare occurrence in those who have been so.

Dr. Burrows observes that, "the influence of sympathy in the production of insanity, is very extensive, and probably is the most common source of it." Van Helmont revived the ancient opinions respecting the sympathetic actions of diseased viscera on one another,

* De la Paralyse considérée chez les Aliénés. 1826. Of which we have given an ample analysis in a former number.

and especially on the functions of the brain. He considered the viscera as the centre of sensations, whence they radiated on all surrounding parts. Bordeu, Barthez, Portal, Dumas, Cabanis, and most of the French physiologists, are imbued with the principles of Van Helmont.

"Although we know not the causes, nor the mode by which sympathies act, yet we have abundant proof of their operation in originating diseases which reciprocally act on the mind.

"There is no organ with the morbid actions of which the functions of the brain so frequently sympathize as the liver. As the connexion is intimate, so is it reciprocal; for morbid actions of the former equally, and perhaps as frequently, disturb the functions of the latter. In importance, the functions of this organ are only second to those of the brain, as far as regards the operations of health: and, as in the brain, so too in the liver, the circulation of the blood is complex, and very liable to be interrupted by extrinsic causes. Hence the greater facility of disturbing its functions.

"All the passions, anger especially, violently affecting the sensorium, act immediately on the liver; and every excess that disturbs the functions of the stomach, easily determines blood in undue proportion to the vena portarum, where, on account of the remoteness of this vessel from the heart, the motion of the blood is always sluggish, and therefore congestion is easily induced. The bile, consequently, is secreted in scanty quantities, the alimentary processes become ineffective, a morbid action of the connecting nerves follows, and the functions of the brain are implicated and disordered.

"Many facts attest, that blows on the head will create, not simply disordered function, but disorganization of the liver; and *vice versa*, nothing is more common than instances of mental disturbance originating in injuries of this organ, or in secretions of morbid bile, or obstructions of the biliary ducts by gall-stones, spasm, &c.

"Diseases of the hepatic system will even originate delirium, furious mania, melancholy, and suicide.

"Insanity is much more common among the lowest classes than the supporters of its mental origin are inclined to admit. Now, drunkenness is certainly the great vice of this class in Great Britain and Ireland, and the propensity is gratified usually by ardent spirits. In a table of 1370 lunatics, admitted into the Asylum of Cork, Dr. Hallaran says 160 were insane from this unhappy indulgence." 94.

The liver cannot be diseased from inebriation, without the stomach participating—and Dr. B. acknowledges that "a morbid condition of the chylopoietic viscera is sympathetically a frequent cause of mental derangement." But, after all, the brain must be affected before insanity can take place. Affections of other organs, like moral emotions,

may be the remote causes—the proximate cause must be in the organ of the mind.

COMMENTARY IV.—HEREDITARY PREDISPOSITION.

This chapter or commentary may be dispatched in a few lines. No pathologist now entertains doubt or cavil respecting the transmission of a disposition, predisposition, (or whatever other name we may choose to give it) to certain diseases, from parent to progeny. This truth applies equally to mania as to phthisis—another proof of the corporeal nature of the malady. A peculiar organization of the brain predisposes to insanity, in the same way as a peculiar organization of the lungs predisposes to consumption! The features of internal organs are transmitted like the features of the face. The hereditary qualities of the mind are only marks of hereditary organization. We shall quote one short passage from this commentary.

"My opinion upon two points relating to this interesting question has been sometimes professionally required by those contemplating marriage, and who were conscious that insanity had existed in one or the other of their progenitors; First, whether a person born of parents in whom insanity has never been developed, but who, one or the other, were descended from a family so afflicted, was capable of propagating it in his own children? Secondly, whether a child born before insanity had been developed in either parent was as liable to become insane as one born after it had been developed?

"To the first question I have answered in the affirmative; because I have met with many insane persons neither of whose parents had themselves been insane, but the progenitors, brother, or sister, of one or the other of those parents, were so.

"To the second I have replied, that a child born either before, or after the accession of insanity in a parent, provided that parent's progenitors or relations in blood had been insane, was liable to hereditary insanity. But if the insanity of the parent were adventitious, and not hereditary, the child born before the mental disorder had occurred of course could not have had it by inheritance; but how far a child born after the occurrence of the adventitious insanity was liable, I could not decide." 107.

We must pass over the remaining commentaries in the first part of the work, in order to direct as much as possible of our attention to the second part.

PART THE SECOND.

This part opens with a long examination of the definitions and divisions of insanity—the former of which is considered an "ignis fatuus in medical philosophy, which eludes and bewilders pursuit." Of the multitude of terms which have been invented for the disease Dr. Burrows prefers *INSANIA*, a name sufficiently recognized and sanctioned by ancient and modern authority, and which, he

thinks, may fairly comprise "every form of intellectual disorder."

"All the causes, physical and moral, of insanity have existed since the origin of man. Hence we may conclude, that all those forms which the moderns have arranged as so many genera or species, were familiar to the ancients, who, above all, were most exact in clinical observation and accurate delineation of symptoms. They were content with simply dividing all mental disorders into two principal affections, mania and melancholia, to which they added frenzy or fury." 250.

Surely Dr. B. must have been precipitate in concluding that the progress of civilization has not multiplied and added greatly to the catalogue of moral and physical causes, not merely of insanity but of many other diseases.

"Dissections demonstrate that the morbid appearances in mania and melancholia are the same, and the like in respect to all the varieties recognised; such as monomania, theomania, demonomania, erotomania, suicide, lycanthropia, zoanthropia, panophobia, nostalgia, &c. No form of insanity is characterized by any peculiar organic change. Such investigations, therefore, oppose all divisions founded on organic causes, though they confirm most satisfactorily the common origin and relationship of every form which presents itself." 251.

If no form of insanity be characterized by any peculiar organic change, how can it have been demonstrated that the appearances in all the varieties are the same? There is, indeed, considerable looseness as well as confusion of thought—or at least of language, in many parts of this work, as if it had been written in haste, though its composition occupied a period nearly as long as that of the siege of Troy. While our author pronounces all classification of mental disorders as "worse than useless," yet he admits that "a distinction between them (mania and melancholia) should be recognised and preserved," not only for convenience, but because the treatment applicable to the one is not always so to the other. Upon the whole, Dr. Burrows considers Dr. Esquirol's division into four species, *mania*, *monomania*, *demency*, and *idiocy*, as the best, though he objects to the term *MONOMANIA*, as a substitution for melancholia. His principal objection hinges on the *ORGANOLOGY* of the phrenologists—a science which seems to haunt the worthy Doctor like a daemon, disturbing his repose, and exciting his ire or ridicule, on convenient or inconvenient occasions. By a most singular mode of reasoning Dr. B. concludes, that as the number of *hallucinations* is infinite, while that of the organs is limited, so the delusion "stamped on a monomaniac's mind (which differs in every case) cannot be the emanation of a distinct organ or portion." Granting for a moment, that there was an organ of *RELIGION*, might there not be many forms of *hallucination* dependent on the deranged function or structure of that organ, without any

great violence to probability or analogy. If one man paid his orisons to the devil and another to our Saviour, in an extravagant or insane degree—or if one man prostrated himself before each cow that he met, while another watched eagerly for the rising sun, as the god of his idolatry,—would not Dr. B. consider all these individuals as affected with religious monomania, though the hallucinations were as different as day is from night? We cannot therefore see, with Dr. B. that "there is, at present, great danger in using the word monomania," lest it should be "applied in one sense, while another is meant." The Doctor, however, prefers the term *MELANCHOLIA*, and as long as we know that by this he means *MONOMANIA*, why let him have his way. For our own parts, we think the latter term infinitely preferable, and that without any reference to phrenology. The order which Dr. B. adopts runs thus: *INSANITY*—comprehending, 1. Delirium—*Delirium Tremens*—2. Mania—*Puerperal Insanity*—3. Melancholia—*Suicide*—4. Hypochondriasis—5. Demency—6. Idiocy.

The Second Commentary of this part of the work is very long and desultory, though abounding in curious and instructive facts and observations. It is on the "CHARACTER OF *INSANITY*"—and we can only notice some of the phenomena grouped by the learned author under the heads—physiognomy, position, sensation, muscular powers, fasting, odour.

1. *Physiognomy*.—All men, and even many animals, are physiognomists. But if it be difficult to judge, from the expression of a sane person's features, of what is passing in the mind, how much more difficult must it be to form a correct judgment from his whose aim is to deceive—whose mind is regulated by no rule, and whose ideas and actions are wild and incoherent?

"The feature which undergoes the most singular and striking change is the eye. The pencil or graver may portray, with tolerable fidelity, the contour of the countenance in the varied states of maniacal fury, melancholy, fatuity, or idiotism; but the skill of art is vain in delineating the peculiarities in the eye of the lunatic. The pen is equally, or perhaps more, incapable of describing it. Now red and fierce, then audacious, threatening, steady, or mobile; sometimes brilliant, quick, and flashing fire; or dull, desponding, fixed, and vacant; and in most cases presenting a remarkable glassy or shining appearance." 282.

Those who are familiar with the insane can

* We would ask Dr. B. whether a disordered stomach will not, at different times, produce different symptoms, even in the same individual; and yet no one would argue from this that each train of symptoms must have a separate stomach for its source. It may be the same with any of the organs composing that congeries or aggregate called the brain.

seldom be mistaken, when they pay attention to the eye. Language and behaviour may deceive—the mobility of feature may be rapid as the imagination is vivid; but when every feature shall vary, or be kept under control; the eye may still indicate the erring thought.

The suicidal tendency, Dr. B. observes, is denoted by a peculiar expression of the eye, which cannot escape the practised attendant.

This organ indicates the material condition of the brain, as well as the state of its intellectual functions. Phrenitis, hydrocephalus, apoplexy, epilepsy, as well as mania, have their appropriate expression of eye.

“Sometimes the pupil will be dilated to an extreme, and the patient will bear, without blinking, the direct rays of a vertical sun; sometimes the pupil is concentrated to a pin’s point, and light is a source of extreme irritation. The eye is frequently much protruded in mania; but this is not owing to extreme pain, as in phrenitis, or to greater activity or fulness of the blood-vessels, as may be suspected in hydrocephalus or apoplexy. During the maniacal paroxysm, as when horror-struck, the eyelids are forcibly separated and retracted, so as to expose a circle of the surrounding albuginous substance, which gives a greater appearance of prominence to the orb than is really the case. Sometimes the eye-lids recede, from absorption of the adipose supporting the eye-ball, and general emaciation of the face, as is seen in persons after extenuating illness; and then also the eye looks enlarged and protuberant.” 283.

It is curious that, in many persons predisposed to violent mania, the iris is so black that it can scarcely be distinguished from the pupil. The melancholic have generally blue or gray eyes. Esquirol has given graphic sketches of the principal forms of insanity—and Dr. Morrison has published in his *Outlines* several excellent portraits.

2. *Position*.—Maniacs and young children are often incapable of indicating the actual seat of pain, and it can only be discovered by external signs, and especially attitudes. Ease and freedom of position, with soft and regular breathing, indicate health—supination denotes great prostration of strength—“lying on the belly is a sign of pain in that part, and is often a prelude of delirium.” Many lunatics rub or press their heads with their hands, and acknowledge that they feel pain there, if interrogated. Maniacs and melancholics, have often a decided partiality for the sitting position—many others crouching with their knees folded towards their chins. Not a few have a positive horror of the recumbent posture—a phenomenon which seems to indicate a determination of blood to the brain in that position. Maniacs, however, assume various positions, many of them apparently connected with the mental hallucination that reigns in the imagination. Thus a religious lunatic will take a fixed posture, directing his eyes towards the Heavens, with steadfast look, as if lost in adoration. Sometimes he bursts into immoderate laughter at his own conceits:—

while others are immoveable—fall into imperturbable silence, with averted eyes, apparently overwhelmed in concentrated sorrow. Such movements and actions, as Dr. B. justly observes, are the offspring of a creative and bewildered imagination, and are not to be regarded as indications of peculiar corporeal feelings.

“3. *Sensation*.—Some authors, and Darwin among them, have supposed insanity to be a disease of pain; and hence the cries, screams, moans, howls, and vociferations of the insane, have been ascribed to the bodily agony they suffer. We must not, however, imagine that these are indications of bodily suffering, any more than that they really feel pain in the various remote parts to which maniacs often refer. When cephalalgia is complained of, it is generally as a precursory symptom, or in the incipient stage of insanity; but the existence of it is never expressed by cries, &c. Severe pains have been felt in the stomach, intestines, and other organs, previously to a maniacal paroxysm; but when the delirium of insanity is developed, the morbid action of the remote part being transferred to the brain, the organ originally affected is commonly relieved from suffering.” 286.

We do not quite agree with Dr. B. in the foregoing passage. He seems to overlook the sensations of organic life—in other words, the sensations of the ganglionic nerves, which cause the most horrible sufferings without any thing like common pain, as experienced in the nerves of relation, or cerebro-spinal nerves. We do not wonder, therefore, that, on inquiry, Dr. B. has not been able to elicit from recovered lunatics any information respecting the cause of those “screams, moans, and howls” which they had formerly uttered. The two following cases are curious, and physiologically interesting.

“A gentleman, aged thirty-six, insane, with a strong hereditary predisposition to suicide, contrived, during the temporary absence of his keeper, though his legs were fastened together, to kick a hole in the fire-guard, and thrust his feet into a quick fire, which he made more fierce by tearing up a book, and thrusting the leaves in. He was found a few minutes after, sitting very composedly in this position. His toes, and part of one foot, were severely burnt; the other escaped with a smart scorching. In the burnt foot, inflammation, extensive and deep eschars, and mortification, with sloughing of the muscles and tendons, followed; and, finally, all the bones of the toes, and some of the metatarsal bones, sloughed away. The cure of this foot occupied more than a year; the scorched one soon got well. But neither during the combustion of the toes, nor for months afterwards, upon removing the diseased parts, or dressing the wound, was any pain expressed. But when the mind improved, and the desire of suicide diminished, which it did long before the wound healed, he complained violently of the pain he suffered from it, or when it was dressed.

"A French dragoon became insane from a *coup de soleil* during the Spanish campaign. In his delirium he found means to get at a vessel on the fire filled with boiling water, of which he drank, at a draught, about a pint, and then quietly returned to his bed. He remained two days without eating or drinking, and without complaint, though his mouth was much inflamed and eschars had formed. Six days after this circumstance, an abundant pyalism came on, which was succeeded by a copious diarrhœa; and in three or four days afterwards he recovered his health and intellects." 290.

4. *Muscular Force*.—This, in the insane, is sometimes truly marvellous—and is evidently dependent on the violent excitation of the sensorium. We all know what power even a delicate female will exert, in a paroxysm of hysteria. The following passage is worthy of the attention of the junior practitioner.

"The astonishing muscular power exercised by the insane is often mistaken for proof of real strength; and hence a depleting practice is often adopted, fatally injurious to the patient. The fury which prompts this violent exertion may be abated, or even subdued, by these means. But it should ever be remembered, that a state of exhaustion naturally follows these paroxysms; and then the vital power, which the depletory measures have subtracted, may be wanted to prevent worse consequences." 293.

5. *Fasting*.—The insane not unfrequently resist the natural desire for food, either from a suicidal tendency, a fanatical resolution, or a dread of poison. In these cases, the constitution will suffer and sink, if nutriment be not introduced by force or persuasion.

"Nothing is more common than for the insane to object to food from an apprehension of poison in it; but it must not be always considered as a delusion when they refuse it on that ground; for sometimes their taste is so perverted or depraved, *that all substances partake of the same flavour, and often a very nauseous one*. We must, therefore, if possible, ascertain whether the rejection proceed from indifference, religious scruples, a determination to starve themselves, fear of poison, or real distaste, because the mode of acting must accordingly vary." 296.

The explanation of Dr. B. as marked in Italics, differs from that of some of our Continental pathologists, who attribute the horror of food to an inflammatory state of the gastrointestinal mucous membrane.

Odour.—Mania is distinguished by a peculiar odour, which can never be forgotten, after being once felt. "It is not," says Dr. B. "the *hircum olet* of Horace, but is a smell quite unique." It is not always an attendant on mania; but when present, Dr. B. considers it "a pathognomonic symptom so unerring, that if he detected it in any person, he should not hesitate to pronounce him insane, even though he had no other proof of it." This is strong language, too strong, perhaps, for medicine.

"I remember the case of a very delicate young lady, of good family, and highly educated, who became insane; but whose family would not admit the correctness of their physician's judgment, till her mother, having somewhere heard of this characteristic symptom, upon entering her daughter's chamber before she had risen, detected this peculiar fetor; and then she yielded to conviction of the nature of the malady." 297.

This young lady was the patient of the writer of this article; and when the maniacal paroxysm was strong, and her temper much irritated, the odour was almost insupportable.

The second Commentary, in this division of the work, treats of DELIRIUM, chiefly with the view of drawing a distinction between this affection and insanity. The distinction is more easily made in practice than in words, which is so far fortunate, and therefore we shall pass it over. The commentary in question, however, contains a great deal of research and information respecting the various kinds of delirium, as that of acute diseases,—as resulting from wounds—from long fasting—and from the approach of death:—

"'Expression's last receding ray,
A gilded halo hovering round decay;'"

"The simple but sublime elevation of the mental over the corporeal essence, when the present world and all its attachments are unloosed—when we cast off all the grossness of mortality, and are putting on immortality." 317.

We cannot but look upon the above specimen of delirium,—"*that state of the intellectual faculties often evinced at that awful crisis when death approaches, and which imparts to the words and acts of the dying an apparent spirit of divination,*" as an amiable flourish of the worthy Doctor's own imagination. From circumstances unnecessary to be mentioned here, we have had but too many opportunities of witnessing the dying scenes of humanity. We are sorry to say that we never observed any of these "gilded haloes" hovering round the couch of death, and marking the dissolution of that mysterious tie which holds mind and matter united in this world. On the contrary, it has but too generally happened that the mental manifestations sank, *pari passu*, with the bodily functions—nor did we ever see an exception to this rule, where the material organ of the mind was involved in disease. Small then is the hope of immortality, as founded on these "words and acts of the dying," on the "apparent spirit of divination," which is said to be "so often evinced at that awful crisis when death approaches."

The fourth Commentary is on DELIRIUM TREMENS, a disease which has obtained so much attention in this Journal, of late, that we need not dwell on the subject in this article. We shall, however, offer one or two short extracts indicating Dr. B.'s pathology and treatment of the disease.

"The nervous system is, by frequent application of so strong a stimulus, at first violently

excited and irritated; and by repetition, the sensorium is so affected as to occasion a temporary effect similar to partial palsy. In time, organic changes of the viscera implicated in these morbid actions take place, and death, or permanent alienation of mind, ensues." 326.

TREATMENT OF DELIRIUM TREMENS.

"But the first and most essential duty, upon being called to a patient with delirium tremens, is to ascertain to what extent his previous habits of drinking have been carried, and how far his constitution has suffered, and to prescribe accordingly. If, as I have said, the constitution be little impaired, and the symptoms of cerebral excitation run high, very moderate depletion by cupping, and purging, and the antiphlogistic diet, may be premised; and the exhibition of opium, in such doses as will induce sleep, should follow. If, on the contrary, the patient is advanced in years, and is a confirmed bibber, abstraction of blood should be avoided; his bowels should be merely kept soluble; a little spirit of wine, diluted with water, and light nourishment be allowed; and he will require larger doses of opium before sleep can be produced.

"Even if opium do not procure sleep, yet there is this decided advantage from its exhibition—a state of quietude is obtained, equally desirable for the patient and his attendants." 333.

We must pass over the remaining Commentaries in the second part, containing dissertations on puerperal insanity, on senile insanity, suicide, hypochondriasis, demency, and idiocy, because we wish to dedicate the sequel of this article to the treatment of the malady. This subject is commenced in the first commentary of part V. and is continued through five commentaries.

Our author wisely disclaims all knowledge of "an antimaniacal remedy," nor does he profess the charm of *novelty* in his treatment of the disease. He tells us that the plans laid down by Aretæus, Celsus, Galen, &c. although founded on a different pathology, are, "in most points, well adapted to the pathology founded on the anatomical discoveries of modern investigations." Dr. B. assures us that he has not attempted to defraud the moderns of what is owing to them; but he acknowledges that he is more indebted to the ancients than the moderns for what success may have attended his efforts. Dr. B. observes, and truly too, that "no mental disorder can originate except through corporeal disorder; and the *only* remedies for a mind deranged are those which apply to the corporeal derangements that *influences* (why not say at once, *causes*) the mental derangement." The physic for the mind is moral discipline. The cure of insanity is usually divided into medical and moral. Dr. B. begins with the *medical*—we shall take the liberty of reversing the order. We shall begin with the subject of

SECLUSION.

There is no general maxim in the treatment of insanity, wherein medical practitioners are so unanimous, as that of separating the patient from all customary associations—from family—from home. We do not much wonder that the feeling of the non-professional public should be strongly opposed to the faculty on this point. Dr. B. has seen a few, and but a few, patients recover in their own domiciles.

"The only case where it (separation) may be dispensed with, is when the affections are in no way perverted, nor the existing delusions associated with home, or any person or object about it. But even then there are other circumstances to be considered which may prevent recovery while in that situation.

"Few persons when they become insane acknowledge being so: consequently, when they find themselves placed under control in their own houses, denied intercourse with their families, and their orders not only disobeyed, but their own servants concurring in controlling them,—they are naturally infuriated to a high degree, or imbibe a plausible and strong suspicion that a conspiracy is formed against their life, liberty, or property. These are irresistible reasons why insane persons should be removed from home." 697.

On the other hand, where the insane is removed to a strange place, and put under the control of strangers, a moral influence is thereby established, to which he usually submits, and a cure is to be expected which could never take place at home.

MORAL TREATMENT.

Dr. B. acknowledges that the moderns are superior to the ancients on this point. This is curious too, if "the qualifications (of the physicians for moral management of the insane) are intuitive, not acquired." Here then is another link between poetry and madness. *POETA NASCITUR NON FIT.* So it is, we find, with the MAD DOCTOR! But though specific rules cannot be laid down for the management of the insane, "yet a few general principles are recognised which embrace almost the essence of this department." These are:—

"First, Never to exercise the mind of an insane person in the sense of his delirium.

"Second, Never to openly oppose the morbid ideas, affections, or inclinations of the insane.

"Third, which is a consequence of the two preceding, to give rise, by diversity of impressions, to new ideas and feelings; and thus, by exciting fresh moral emotions, revive the dormant faculties.

"Fourth, Never to commit one's self to an insane person by a promise; but if inadvertently a promise be given, faithfully to adhere to it, unless certain that the fulfilment will be attended with worse consequences than the breach of it.

"These principles are not for the government solely of the physician, but of every one

who has the charge, or is attending on, or visits casually, a lunatic." 668.

It is in the stage of convalescence that the great art of moral management becomes conspicuous. But as this art cannot be communicated in words, we shall dwell no longer on the subject.

RELIGIOUS COMMUNICATION.

This is a mooted point in the present godly times. If religion be sometimes the cause of insanity, as Dr. B. himself allows, it may easily be conceived that the application of the same, in the way of cure, must be a very delicate operation, and require unusual discretion. This application, Dr. B. avers, and we believe, with reason, can never be admitted as a general principle. Divine service, in the usual forms, has been tried in Bethlem, Glasgow, Lancaster, and some other asylums, and it is said, with advantage, when the discourses were suitable to the patients selected. But the statements on this head are to be taken, cum grano salis, for obvious reasons. We are not certain that Dr. B. was not influenced a little by the opinions of the PURITANS, rather than by his own experience, when he penned the following sentence.

"Governed by these rules, (judicious selection and suitable discourses) I have never experienced any ill, but, on the contrary, much good effect, by a proper attention to religious observances among the patients of my own establishment." 680.

We should be glad to know who it was, Dr. Burrows, or the Parson, who was constituted the judge of the suitability of the sermons? It could not surely be the latter; for how was he to know the state of the patients, of their capacity for religious discourses. It must have been a novel sight to observe the physician in consultation with the minister, every Saturday night, on the nature of the sermon which was to be preached next morning!

"Before religious instruction in any form be attempted, let it be received as a maxim, that an intimate knowledge of every patient's state of mind, and of his former and present opinions regarding religion, should be first ascertained; and till all doubt on this head be removed, every interference should be suspended. This information, among a great number, is difficult to obtain. Even when obtained, the admissibility of this powerful auxiliary, in assuaging the anguish of a troubled mind, and aiding the recovery of convalescent lunatics, must be left to the judgment of the physician; but, above all, if in an asylum, to the accuracy of the superintendent's discriminating faculties. Hence it is easy to conceive how great an adept he ought to be in fathoming the recesses of the human mind." 681.

We apprehend the foregoing passage goes far to settle the question of preaching to the insane. But we must now descend from a higher to a lower flight—from religion to physic.

VOL. III.—U u

MEDICAL TREATMENT.

This department of the work before us, and indeed of every English medical work, is highly characteristic of the national polypharmic feeling. A continental physician would luxuriate in the delineations of the indications to be pursued, and the pathological conditions which were to be obviated, leaving, almost entirely, the means for fulfilling both these intentions to the judgment of the practitioner. Not so the English physician. He displays an almost interminable list of individual medications, descanting on their properties, doses, virtues, vices, &c. &c. till the inexperienced is completely bewildered as to the choice of so many remedies for one disease! Thus the third commentary of the fifth part of Dr. B.'s work presents us, under 21 heads, with a most delicious bill of fare, in the treatment of insanity; the very sight of which might go far to cure a madman—or make a sane man mad.

"Abstraction of blood, General and Topical; Dry-Cupping; Refrigeration; Gyration and Swinging; Sleep; Narcotics; Blistering; Setons and Issues; Artificial Eruptions; Bathing; Purging; Vomiting; Nausea; Salivation; Digitalis; Prussic Acid; Camphor; Spirit of Turpentine; Tonics; Tobacco; Diet." xvi.

We do not quote this bill of fare with any intention of reflecting on Dr. Burrows. Though the plan may appear less scientific, it may perhaps be more useful than that adopted on the continent.

Dr. B. remounts, of course, to the cure of King Proteus's daughter, by means of PURGATION—a remedy which has not lost in reputation or repetition since that period. Our author wisely advises us to make inquiry into the cause, nature, and seat of the malady, before we begin our *methodus medendi*—and if we cannot discover these, to wait a few days, where no symptom threatens, keeping the patient separate and quiet—and merely attending to the bowels. Dr. B. thinks that "the pathological division of insanity into the different *stages*, has done more to advance the treatment of the malady, than even the clinical experience of the ancients, or the *morbid discoveries* of modern anatomists."

"The conviction, however, has at length arrived, that insanity is a purely corporeal disease, and, like other corporeal diseases, is amenable to medical skill.

"In every case of insanity there is a diseased action going on, and each demands a separate examination: the features may be there, but be as varied as the expression of the human countenance. Hence none but general principles can be laid down, nor is any systematic treatment admissible." 577.

Dr. B. further observes, that the several stages which insanity pursues in its course, "testify that the brain, the organ of the mind, assumes different morbid conditions—first functional, and then structural—functional in the first three stages—structural or organic in the last." This pathological view is to be our guide in therapeutics.

"In the *incipient stage*, there is evidence of great vascular excitation and cerebral irritation, and this stage must be met by a correspondent treatment. Here are indicated repeated topical abstractions of blood from the head or contiguous to it, shaving the head and refrigeration, so long as there is preternatural heat of the scalp, cautious general blood-letting, even in the plethoric and robust, very moderate in the delicate, though young, purging, vomiting after the vessels of the head are unloaded and the bowels evacuated, nauseating doses of tartarized antimony to moderate the circulation and excessive violence, the digitalis in gradually augmenting doses, till the pulse intimates reducing the dose, saline draughts, and moderate diet.

"In the *active or confirmed stage*, the fury and violence of mania, or the despair of melancholia, with their concomitant mental delusions, may persist, yet the symptoms of physical excitation attending the incipient stage subside or intermit, and occasionally only return.

"When the symptoms of excitation recur, they must be treated as in the first instance, except that neither depletion by local or general bleeding, nor by any evacuants, should be so active or copious. The system will not in this stage bear them so well; on the contrary, light tonics and the shower-bath are of great use, even when moderate topical bleeding and purging are indicated; and when the exacerbation of a paroxysm ceases, more powerful tonics, as chalybeates, cinchona, cold-bathing, and a better diet, are admissible. It should also be observed, that in melancholia the class of remedies which are designated anti-nervines, are useful adjuvants.

"In the *convalescent stage*, if symptoms still denote cerebral congestion, gastric irritation or uneasiness, or intestinal irregularities, they should be attended to until they are removed. In this stage, moral treatment besides is especially indicated." 581.

We have now to glance at some of the principal items in the therapeutic catalogue.

1. *General Bleeding*.—This is a measure which has been largely employed, up to the present period. We agree with Dr. B. in doubting its efficacy, except in very restricted cases. Indeed we have no doubt that copious abstractions of blood are generally fraught with mischief.

"Following example rather than experience, I tried depletion by blood-letting for several years; but discovering my error, I became more cautious; and, I believe, that I have scarcely ordered venesection in six cases of simple mania or melancholia in as many years. My conclusion is, that since I changed my practice, more have recovered, and certainly the cases have been less tedious and intractable." 583.

2. *Local Bleeding*.—This is far more eligible. The primary symptoms, both in mania and melancholia, indicate increased activity in the circulation of the brain.

"The partial pains, tension, or throbbing

in the head, extraordinary heat of the scalp, flushed face, blood-shot or glistening eyes, and general confusion of ideas, mark cerebral determination or congestion." 589.

Dr. B. does not recollect a single exception to the utility of local depletion, in cases of recent insanity. Cupping or leeches are the modes to be employed—and our author prefers "cupping on the occiput," to all other modes. Leeches are the best substitute, where there is a horror of cupping. The quantity of blood to be abstracted, and the repetition of the operation, must be left to the judgment of the practitioner.

"In cases of nymphomania, all the distressing symptoms whence this affection derives its name have been removed by the application of leeches to the vulva. In like manner, improvement of the mental faculties, dependent on menstrual obstruction, follows cupping on the sacrum. Sympathetic delirium from an affection of the liver, has subsided by local abstraction of blood from the hepatic region." 592.

Dr. B. has found sensible advantage from dry cupping, in cases where emaciation and debility positively forbade the detraction of blood.

3. *Refrigeration*.—Shaving the head, and keeping it covered with refrigerating evaporating lotions, are universally admitted to be most important measures. They almost invariably produce a calming and even soporific effect, in violent mania. Equal parts of spirit, vinegar, and water, form a very good evaporating lotion.

4. *Gyration and Swinging*.—These were strongly recommended by Darwin, Cox, Hallaran, Horn, and others. But some fatal accidents having taken place, the employment of these machines is far from general.

"It is described as seldom failing to produce copious evacuations in the most obstinate cases, provided that, on increasing the velocity of the swing, the motion be suddenly reversed every six or eight minutes, pausing occasionally, and stopping its circulation suddenly: the consequence is, an instant discharge of the contents of the stomach, bowels, and bladder, in quick succession. Should the stomach only be acted upon, a purge should be afterwards given." 601.

Dr. B. has, with many others, been deterred from introducing it into his asylum, on account of the popular prejudice engendered by the Parliamentary Committee of 1815-16.

5. *Sleep*.—Dr. B. thinks there is commonly by far too great a solicitude among practitioners to procure sleep for the insane.

"A maniac awoke from sleep artificially obtained, is a giant refreshed. New activity is imparted to the sensorium, and his muscular powers are recruited. If he have lost by it one hallucination, another assumes its place, more wild, perhaps, and extravagant than the former, and his waking dreams are the more vivid; hence his violence and raving are increased, and the power of continuing them prolonged." 607.

In the incipient stages of insanity, there is too much excitement—in the confirmed and incurable, too little, though sometimes accompanied with great irritability. Whatever diminishes the excitement, in the former case, as local depletion, cold, &c. will induce sleep. In the latter case, the opposite plan, under judicious inspection, may be often serviceable in procuring repose.

6. *Narcotics*.—These remedies have produced great discussion among physicians.

“Maniacs will generally bear large quantities of opium and other sedatives better than they will support remedies which weaken the vital powers. But opium, when the excitation is great in a full and strong habit aggravates; when the excitation is moderated by previous depletion, or the habit is reduced by long continued mania, stimulants, like opium, wine, porter, &c. tranquillize and prove soporifics.” 610.

In the early stage, the vessels of the brain should, of course, be unloaded before narcotics be ventured on. When given, they should be in large doses, or none at all.

“I have never ventured beyond five grains of purified opium as the first dose. In those cases where I have deemed an anodyne admissible, I generally begin with three grains, and repeat one every two or three hours. I have never in this way exceeded twelve grains; and if sleep has not then followed, I have desisted.” 613.

On the effects of *hyosciamus niger*, blistering, setons, and tartar emetic frictions, we need not dwell. Dr. B. appears to have been greatly disappointed in the expectations he had formed of the latter remedy, in consequence of the representations of Jenner and others. We must always be prepared for disappointments when the favourite nostrum of a medical writer is submitted to the test of experience by others.

7. *Bathing*.—This is a subject which has given rise to innumerable discussions in ancient as well as in modern times. The following are Dr. B.'s opinions respecting cold and hot baths, together with their *modus agendi*.

“The effect of general bathing, whether warm or cold, is imitative of the process of fever, which, as I have shown, will suspend the maniacal action, sometimes as long only as that lasts, and sometimes accomplish the perfect restoration of the intellectual faculties. Fever gives an impetus to the circulation and distributes the blood through the encephalon with an activity that imparts new energies to the brain.

“Warm bathing immediately produces accelerated circulation; cold bathing mediately, by reaction. Hence, both are perturbators, and eventually may equalize the circulation, which, perhaps, in every case of insanity is, in one way or the other, disturbed. Consequently, provided the necessary precaution of evacuation be adopted in the plethoric, or those with a manifest determination of blood to the head, either warm or cold bathing may

prove equally beneficial. In using the warm bath, the conjoint application of cold to the head may prevent the ill effects of determination, even when evacuation had not been premised; but the safer practice in such cases is, to prepare for its use by local bleeding and proper alvine dejections.” 628.

8. *Purgation*.—Black hellebore is the most ancient of all purgative substances, and has been celebrated in the cure of insanity, especially of melancholia, for 2000 years. So late as the days of Thomas Willis, twenty grains of calomel, the same of extract of black hellebore, and six grains of extract of jalap, were given for one dose, in insanity.

Drastic purgatives are sometimes necessary in the beginning of the disease, not only to overcome the torpidity of the bowels, but to clear away accumulations from the colon and rectum. When the evacuations have become natural, the bowels should not be irritated by powerful cathartics, but regulated, if possible, by diet, or by mild laxatives. There is a common but dangerous error prevailing, that the bowels of lunatics are peculiarly difficult to be acted on. This has led to very bad practice.

9. *Vomiting*.—Of all measures for the cure of insanity, this is the most generally and strongly recommended.

“Evacuation, says the elder Monro, is the best cure, and vomiting preferable to all others; and if not carried beyond the patient's strength, nor crowded too fast upon him, his health of body will visibly improve so long as vomits are continued. The prodigious quantity of phlegm which accumulates, he observes, is not otherwise to be got rid of; and he adds, that purges do not operate so well till after vomits. Hallaran, however, advises, that purging should precede vomiting.” 641.

Dr. B. conceives, and we believe justly, that the beneficial action of vomits in insanity, is not to be attributed simply to their evacuating properties, but rather to their well-known effects on the circulation generally. The following declaration of our author is not very consolatory in reference to emetics.

“Influenced, however, by the strenuous recommendations of emetics for the cure of insanity, I gave them a fair trial; and in several cases relied upon their operation together only with purging. I used in turn every substance in the materia medica possessing emetic properties, and marked with attention the effect of each; but I must conscientiously declare, that, after several years' perseverance, my confidence in emetics alone in cases of insanity has been entirely dissipated.” 641.

Still Dr. B. has recourse to emetics occasionally, but only as in other diseases—“to free the stomach from troublesome ingesta, accumulated phlegm, or morbid bile.”

“Doses of emetic tartar at such intervals as will keep up the nausea, rarely fail to reduce the most stubborn to subjection. Sleep, also, which in these cases is so desirable, will sometimes occur while in this state. This plan should be continued so long as it is posi-

tively useful, and no longer. I have known it pursued for a fortnight, and the hallucinations by degrees dispersed, or so weakened that the cure has been quickly accomplished." 643.

10. *Salivation*.—Spontaneous ptyalism is a phenomenon often attendant on insanity, and probably led to the employment of mercurial salivation in this disease. Dr. B. has made many attempts to cure insanity by mercurial ptyalism, "yet he never succeeded but in one case to restore the mental functions by it." This was a case of melancholia.

11. *Digitalis*.—This appears to be the most favourite remedy in mental derangement at present.

"I have never carried the dose beyond fifty drops of the tincture of digitalis of the London Pharmacopœia. Even in that quantity, by gradual increment, I have seen effects produced that have alarmed me for the safety of my patient; and therefore, if it has not answered in that dose, I have desisted from carrying it further, or suspended it altogether.

"Besides premising depletion, and purgation with calomel, Dr. Hallaran advises mercury to be given internally, so as to produce moderate salivation, as preparatory to the exhibition of the digitalis.

"Without any of the enthusiastic admiration and confidence in the virtue of the fox-

glove as an antimaniacal remedy which this respectable physician professes, I perfectly concur with him in considering it as having a very powerful influence, when properly administered, in all stages of insanity accompanied with great vascular excitement and a rapid pulse.

"I believe, also, that if the general rule he lays down, of previously depleting, and evacuating the bowels by calomel purges, be adhered to, the operation of digitalis will be found more uniform, not only in insanity, but in many active diseases where it now often proves ineffectual." 654.

The other medicinal remedies in the catalogue need not detain us any longer, and we have now, we hope, given a pretty full, though very general view of Dr. B.'s work. It is not one of those which are so diluted with words, that the valuable matter may be condensed into a nutshell. It is really a work containing an immense collection of important practical information from various sources, digested and commented on, by a man of sound judgment, accurate observation, and extensive experience. This may not appear a very high panegyric, but it is one which, we apprehend, will recommend the book more effectually to the attention of our readers, than whole pages of fulsome adulation.

Medical and Philosophical Intelligence.

Extra-Uterine Pregnancy.—Augustine M., ætat. 22, of a strong and plethoric constitution, had, about a year before her admission, miscarried in the seventh month of gestation. Since that time she had enjoyed pretty good health, and become pregnant for a second time. In the fourth month she began to complain of pain in the loins, and general debility, which apparently slight symptoms had existed for no more than two days, when, on the morning of the 15th of October, she awoke with a very violent pain over the whole abdomen; she was immediately brought to the Hospital Saint Antoine, and placed under the care of M. Rayer. Her countenance was pale, and expressive of the greatest anxiety; the lips were livid; the tongue moist; the abdomen swollen, and very tender on pressure, especially at the sides. The os uteri was neither painful nor dilated; the uterus was somewhat enlarged and tender; the pulse was scarcely to be felt; the extremities were cold, and the patient had frequent attacks of syncope. In the afternoon of the same day, the symptoms still increased in violence, and in the evening she expired, apparently with all the signs of internal hemorrhage.

On examination of the body, nearly two pints of fluid blood were found extravasated in the abdominal cavity, and a triangular coa-

gulum of considerable size, extending from the small pelvis up to the umbilical region, was found covering the lower half of the abdominal viscera, and, on a closer inspection, appeared to originate from the uterus, by means of a thick pedicle. This coagulum having been carefully removed, a fœtus, five inches in length, was discovered in the left iliac region. The uterus was enlarged, and exhibited two tumours, separated by a longitudinal incision; that of the right side was the largest, and ruptured on its upper portion; between the edges of this rupture, the coagulum and umbilical cord were inserted. The neck of the uterus was about an inch in length, and slightly dilated by a gelatinous matter; a probe being introduced from below upwards, entered the left portion of the uterus, which, being opened, was seen lined with the membrana decidua. This having been removed, the opening of the left fallopian tube was readily found, but not the slightest trace of the right tube, or of any communication with the right tumour, could be discovered. It was perfectly separated from the left half of the uterus by means of a septum, of about an inch in diameter; the tumour itself was eleven inches in its transverse, three inches in its vertical, and one inch and a half in its antero-posterior diame-

ter; on being opened by a crucial incision, it was found to contain the fetal membranes and the placenta, which were somewhat protruded towards the rupture. The left fallopian tube was healthy, but that of the right side passed towards the lower portion of the tumour on the right side of the uterus, and was totally obliterated. It appears, then, that the fœtus was developed in a morbid cavity, formed in the substance of the uterus, having no communication with its cavity, and that the case belongs to those of interstitial extra-uterine pregnancy, which was first described by Maurideau, Schemit, and Albert.—*Journal Hebdomad.*

Suppuration of the Ovaries and Fallopian Tubes.—Marie Dushuit, thirty-seven years old, was admitted into this hospital on the 2d of September. She had borne three children, had always regularly menstruated, and, till the last four or five months, enjoyed good health. From this period she began to be affected with costiveness, accompanied by violent pain in the right side of the belly, and numbness of the right thigh. Injections and aperients generally relieved these symptoms, which, if left to themselves, ended in nausea and vomiting. In August, the pain which had hitherto been confined to the right side, began to be felt in the left iliac region, where a tumour was observed, the increase of which was attended by numbness and shooting pain of the left thigh. On her admission into the hospital, she was found in the following state: the tumour, in the left iliac region, was extremely painful, and appeared to be very deep-seated; it raised the integuments for about an inch above the rest of the abdomen, and could be covered by the hand; the strength of the left leg was much impaired; its heat and sensibility were natural. The patient was costive, and vomited almost every thing, very soon after ingestion: the whole abdomen was very tense and tender. Under the repeated application of leeches, and the use of emollient poultices and mucilaginous potions, no alteration ensued. During the menstruation, which, on the 6th of September, appeared in due time and quantity, the pain and sickness somewhat subsided, but recurred after the evacuation had ceased. On the 2d of October, the patient having hitherto suffered much from constant costiveness, colic pains, and vomiting, was attacked with profuse diarrhœa, and violent pains in the belly, during which the tumour suddenly collapsed. Fifteen leeches were applied to the anus, and opium was given internally, but the diarrhœa continued; the stools were mixed with blood, the abdomen was tense, very tender, and tympanitic; the patient was very restless and feverish, with a small pulse, and cold extremities, and, in spite of the administration of stimulants, expired on the 9th of October. On examination, the brain and thoracic viscera were found healthy; the liver was firmly adherent to the peritoneum, which was injected, and contained a sero-purulent

effusion; the intestines were united by false membranes, which, in the left iliac region, exhibited a very considerable firmness and vascularity. On the left side of the uterus a large tumour was observed, which, on a closer examination, was found to be an enormous abscess communicating with the fallopian tube, which was, for the most part, much dilated, inflamed, and in a state of suppuration. At the bottom of this abscess, the ovary was found in an enlarged state, and containing some purulent matter. The abscess communicated with the rectum by a circular perforation, about the fourth part of an inch in diameter. On the right side, the fallopian tube was also found dilated and inflamed, without, however, leading into an abscess; the ovary was of the size of a hen's egg, and filled with pus. The bladder and uterus were healthy; the mucous membrane of the large intestines was ulcerated in many places.—*La Charité. —Lancet.*

Connexion between Monstrosity and Deficient Development of Parts of the Nervous System. By Professor TIEDEMANN.—Professor Tiedemann has published an interesting series of observations on the connexion between deficient development of the nervous system and of the extremities in monsters. He gives examples of defective formation of the spinal cord with deficiency of limbs; and, on the other hand, of excessive formation of the brain and nerves with supernumerary organs. These positions are illustrated by dissections and figures, some original, and others copied from writers of authority.

From the facts related in this and in a preceding paper, Professor Tiedemann thinks that it is decidedly established that there is a direct relation between the constitution of the nervous system and the construction of the other parts of the body. With the absence of any nerve there is connected the absence of the organ to which the nerve belongs, and with the imperfect formation of any part of the nervous system there is associated the imperfect development of the organs which it supplies. He is farther convinced, that in all monsters with excess of formation, whether it consists in single parts, or is extended to the whole body; or whether the doubling of parts is of the upper or under portion or to one side, the distributions of the nervous system correspond. The same takes place where two organs are blended into one. Professor Tiedemann, having assumed these as established facts, next proceeds to inquire whether the defective formation of the organs is the consequence of the want of the nerves; or whether the nerves are not formed, because the organs are wanting; and conversely, whether the formation of part in excess is owing to excessive development of the nervous system; or whether the nervous system is in excess because there are supernumerary organs? As the result of a very ingenious and profound inquiry, Professor Tiedemann concludes that the nervous system, as the first

existing apparatus, regulates the formation and development of the embryo, and determines the peculiar form and disposition of the rest of the organs.—*Zeitschrift für Physiologie*.

Double Uterus and Double Impregnation.

By Dr. GEISS.—A woman of middle stature and robust constitution, had been in labour two days. When Dr. Geiss saw her, he observed that the pains were confined to the right side of the abdomen, where the uterus extended as high as the thorax, while on the left it only reached the umbilicus. The external organs of generation and the orifice of the uterus were perfectly well formed, and on examination the shoulder of the fœtus covered by the membranes could readily be detected; the operation of turning was performed, and the woman safely delivered of a living child. The right side of the abdomen immediately diminished in size, while the left underwent no change. After the lapse of an hour, there was a recurrence of the pain, and on introducing the hand, Dr. Geiss ascertained that there existed at the side of the orifice of the uterus, and quite distinct from it, a circular opening, through which the membranes of another child protruded. On another examination, he distinctly recognised the abdomen of the second child, presenting at the orifice just mentioned; turning was again performed, and the child delivered apparently still born; but, by the employment of proper means, it was quickly resuscitated. As the detachment of the placenta did not take place, he introduced his hand into the uterus, and thus ascertained beyond doubt that the organ was double. The placenta of the first child was first detached, and the uterus immediately contracted vigorously. The left placenta afterwards came away, but the uterus of that side did not contract so strongly, and the patient lost a considerable quantity of blood. Two months afterwards she had entirely recovered, and both children were alive and well. Two years previously she had been delivered of a single child, after a very tedious labour.—*Rust's Magazine*.

Hæmorrhage arising from ulceration of an Uterine vessel, and terminating fatally in the space of three hours. By Dr. LECLERQ.—The patient, æt. 28, of weak constitution, had for six years felt dull pains in the abdomen, a little above the left inguinal region, which she attributed to a blow received on this part by falling against the corner of a table. During the period above mentioned, she suffered occasionally from slight indisposition, so trifling, however, as scarcely to require medical aid, and for which she generally had a few leeches applied to the thighs. Four years ago she was delivered of a well-formed child, and from this period she imagined that she had an ulcer of the womb; MM. Dubois and Boyer were consulted, but nothing was discovered to justify her apprehensions: her fears had nearly vanished, when about two months since, there

was a recurrence of the abdominal pains already mentioned; fifteen days afterwards, the catamenia, which had been a little retarded, made their appearance in such abundance and continued so long, that she believed she had had an abortion. From this time till the next menstrual period, she complained more frequently of the pains in her pelvis, and expressed to her intimate friends, her apprehensions of the consequences. Notwithstanding, her health did not appear to be in any degree impaired, her breasts and abdomen seemed to enlarge, which, together with another delay of three or four days in the appearance of the menses, gave rise to a presumption that she was pregnant. Such was her condition, when, on the 9th of August, while carrying a burden disproportioned to her strength, she felt an acute but momentary pain in the pelvis; the day following, she rose early and ate her breakfast about 9 or 10 o'clock without making any complaint; an hour afterwards, she was suddenly attacked with syncope, which was of long duration; immediately afterwards, she was seized with violent spasms of the intestines, vomiting, &c. which alternated with the syncope, and terminated her existence in the space of three hours.

On dissection, a large quantity of extravasated blood was found in the abdomen, the source of which, after a protracted search, was traced to a circular ulceration, about a line in diameter, on the surface of a tumour developed in the folds of the anterior wing of the left broad ligament; this tumour was about twice the size of the ovary, it contained fibrinous coagula, some of which were whitish and others of a dark-red colour; a large artery opened into this cavity, which was formed in part by the peritoneum and by the cellular tissue which enters into the composition of the broad ligament.—*Archives Générales de Médecine*.

Gangrenous Laryngitis and Bronchitis.—A labourer, 17 years old, had for some time been affected with a very troublesome cough, when, after an excess in drinking, he was taken with shivering, fever, general debility, violent headach, sore throat, and diarrhœa. Some leeches were applied to the throat, and, on the 5th of April, the patient was admitted at the Hôtel-Dieu. At this period the heat was moderate, the skin dry, the pulse very small and frequent, the abdomen somewhat tender, the tongue dry and red, the mouth and nose filled with mucus, the breath very fetid, the throat very painful, and deglutition difficult. The tonsils and soft palate were covered with a thick, white, grayish mass, the voice was hoarse, respiration difficult and stertorous, and a thick mucus was expectorated; eight leeches were applied to the epigastrium. On the 6th, the smell of the breath was truly gangrenous; the countenance was very pale, and expressive of anxiety; the pulse could not be felt; and the voice was hardly audible. Thirty leeches to the throat, and sinapisms to both

arms, were ordered; but the patient died on the same morning. On examination, the whole cavity of the mouth was of a livid colour, and lined with a thick albuminous mass; the tonsils were swollen, and of a dark-red colour. The whole extent of the larynx, trachea, and the larger bronchial divisions, were covered by a false membrane of a white colour, and gradually decreasing in thickness. The upper part of the right lung was hepatized, and very firm; the left lung was healthy. The mucous membrane of the stomach was red, and, on the great curvature, beset with granulations.—*La Clinique.*

Colchicum Autumnale.—Dr. Fiévée, who has had great experience of this article in gout and rheumatism, recommends the following mode of administering it. Take of the tincture of the bulb of the plant, half an ounce, tincture of the seeds, two drachms, sirup of lemons, four ounces, mix, and give a spoonful in a cup of the infusion of balm.

This mixture, given in the space of twenty-four hours, produces at the expiration of eighteen hours, several evacuations. The most violent arthritic engorgement soon disappears, and the patient is suddenly relieved. During the administration of the remedy, it is necessary to abstain from food, and to watch attentively its effects upon the stomach and system generally. M. Fiévée states, that in some instances, the gout disappears to return no more; in others it has a tendency to assume a chronic form.—*Gazette de Santé.*

Central Point of the Nervous System.—M. FLOURENS recently presented to the Academy of Sciences in Paris a Memoir entitled "Experiments on the Semicircular Canals of the Ear in Birds."

The author began by adverting to two Memoirs, not presented to the Academy, but published in the *Annales des Sciences Naturelles*, for January and February last. The object of the first is to determine with precision the limits of the central and vital point of the nervous system.

It results from his experiments that this point commences at the origin of the eighth pair of nerves, and extends over the space of a few lines only. By cutting the cerebellum below this point, its vitality ceases, yet the medulla spinalis is unaffected. Cut the spinal marrow below the point in question, and it dies. A point then exists in the nervous centres on which depends the life of all the other parts. This point is between the spinal marrow and cerebellum, the very centre of the nervous centres, (*au centre même des centres nerveux.*) It suffices that a part be united to this point to preserve its vitality; its death is the inevitable consequence of disunion.

Reunion of the Ends of different Nerves.—In the second Memoir, M. Flourens, after having repeated the experiments of Fontana, of Montana, of Cruickshank, and of others, on the reunion of the divided extremities of the same nerve, sought to determine the ef-

fects resulting from the union of the ends of different nerves. He therefore placed them in contact, and so kept them. In every instance the reunion took place. In some of the cases the return of the function was complete; in others it failed. In all, the transmission of irritations by the united nerves was perfect.

Effects of the Section of the Semicircular Canal of the Ear in Birds.—This is the immediate object of the Memoir now read.

The semicircular canals in birds are two vertical and one horizontal, which, with the vestibule and cochlea, form what is denominated the labyrinth, or internal ear.

In pigeons, the greater of these canals is the superior. It is vertical, and obliquely directed from behind forward. The middle is horizontal. The inferior is vertical, and directed from before; backward it crosses the horizontal.

M. Flourens, having successively made the section of these canals without producing the death of the animals, observed the following effects, which continued in many of them for nearly the space of twelve months.

1. The section of the *horizontal* canal of *both sides* is uniformly followed by a violent horizontal movement of the head. The section of the vertical canal, whether superior or inferior, of both sides, is followed by a violent vertical movement of the head. Finally, the section of both the horizontal and vertical canals produced both the vertical and horizontal motion of the head.

2. The section of a canal on *one side* only, whatever be the canal cut, is accompanied by the motion of the head in a much smaller degree than when both sides are cut.

3. The section does not destroy life, but the effects above mentioned remain during the life of the animal.

4. The principle of this effect resides in the membranous lining and nervous expansion of the canals.

It is, says M. Flourens, an extraordinary fact that parts so small and of such delicate structure, should exercise so powerful an action on the animal economy; and it is equally so that parts, whose functions appear to be specially confined to the purposes of hearing, should have so marked an effect on the movements above described; and, finally, that each of the parts determines a motion in conformity with its own vertical or horizontal position. Thus, the horizontal section produces a horizontal motion; the section of the vertical is followed by the vertical motion.—*Lond. Med. and Phys. Journal.*

Lithontripteur.—Mr. Zanabi Pecchioli, an eminent young surgeon, charged by the Grand Duke of Tuscany to observe the actual state of surgery in various countries, has made a great improvement on, or rather he has added a new and important principle to, the lithontriptic instruments invented by Messrs. Leroy d'Etoile, Civiale, Amusat, Hourteloupe, &c. &c. We have had a recent opportunity of examining Mr. Pecchioli's instrument, and seeing

him work it on different calculi—not, of course, in the living body. We would say that its superiority over the instruments of the gentlemen above-named, is threefold. In the first place, it combines the principles of each of the others, the drills and other parts of their machinery being rendered completely available in Mr. P.'s apparatus. In the second place, the spring, or ressort, by which the drill or perforator is made to bear on the calculus, and which cannot, in the other instruments, be made to vary in force, is superseded by the construction of the pulley, which enables the operator to modify, vary, augment, or diminish, at pleasure, the force used—and that by his own hand. This we conceive to be a very important improvement. But the third modification is the most important of all. The perforator or drill, in Mr. P.'s lithontripteur, can, at any period of the operation, be converted into a kind of trephine, varying in the diameter of its circular movements from the smallest circle up to one of 18 lines in diameter, at the operator's will—and thus becoming capable of grinding down the calculus by a series of girations equal in extent to the grasp of the pincers or tenacula, instead of boring holes, and shifting the instrument for each perforation. By this operation, a considerable portion of stone may be ground down by a single sitting; and the danger of large and irregular fragments being scattered about in the bladder, when the calculus is broken after many perforations, according to the methods of Leroy d'Etoile and Civiale, is avoided.

Sir Astley Cooper, Mr. Travers, Mr. Key, and many other distinguished surgeons, have compared Mr. Pecchioli's apparatus with that of M. Civiale's; and, without vouching for the general success of the lithontriptic process, they have no hesitation in acknowledging the great ingenuity of Mr. P.'s instruments.—*Med. Ch. Rev.*

Delivery effected by Incision of the Perineum. By Dr. Kroon.—This gentleman was called to a woman, 25 years of age, who had been some time in labour; on examination, an obstacle was found in the perineum, which, in consequence of a wound, and ulceration, the cicatrices of which still remained, was considerably enlarged. The labia were so much changed that they had the appearance of an encysted tumour; at their union in the perineum they were deformed by a band half an inch in thickness; the perineum itself was of an irregular form, and the orifice of the vagina was not larger than before the period of puberty. In the hope that nature would ultimately triumph over every obstacle, Dr. Kroon directed some emollient applications to be made; but observing that the labour did not advance, and that the head had taken another direction, and pressed upon the rectum, he became apprehensive lest a rupture of the intervaginal septum should take place, and delivery be effected per anum. Several physicians were called in consultation, and it was

determined, in consequence, to divide the perineal band, and thus to remove the only obstacle to delivery. The operation was performed; the fœtus was dead, and delivered by the forceps; the edges of the wound were brought together by means of a suture; some slight inflammation supervened, but was readily removed, and after the lapse of a few weeks the patient had entirely recovered.—*Jour. Univ. des Sciences Medicales.*

Mr. Mantel's Report of Midwifery.—In the midwifery practice of a healthy country town, the number of cases being 2510; there were 4 arm presentations, or 1 in 600; 8 in which turning was required, or 1 in 300; 6 in which the forceps were employed, or 1 in 400; 3 cases of embryotomy, or 1 in 800; 6 cases of puerperal convulsions, or 1 in 400; 2 cases were fatal.—*Med. Gaz.*

New Publications.

Catéthérisme Rectiligne, ou Nouvelle Manière de Pratiquer cette Opération chez l'Homme, suivi d'un Nouveau Moyen de Réunir les Déchirures de la Vulve et du Périnée, produites par les Accouchemens; avec Figures. Par Et. Moulin, D. M. P.

The Anatomy and Physiology of the Nervous System. By Valentine Flood, A.M.M.B., Member of the Royal College of Surgeons in Ireland, and one of the Demonstrators in the Richmond School of Anatomy. 12mo. pp. 315. Dublin, 1828.

An Essay on the Mechanism of Parturition, from the German of C. F. Naegelè, Professor of Midwifery at Heidelberg. By Edward Rigby, M. D. 12mo. pp. 166.

Literary Intelligence.

Dr. Epps, author of the *Internal Evidences of Christianity*, deduced from Phrenology, and Lecturer on *Materia Medica* and *Chemistry*, proposes to publish (by request) three *Phrenological Essays*:—

I. On the faculty of *VENERATION*—showing that many forms of religious worship adopted by different sects of professing Christians, excite *false* devotion, by acting on this faculty through the feelings, and not through the intellectual faculties.

II. On *MORALITY*—pointing out the inferior origin of the greater portion of the morality of the present day, and that the facts of Christianity present the only lasting motives to moral actions.

III. On the best means of attaining *HAPPINESS*—demonstrating the sources of our misery, the sources of our happiness, and that our happiness and misery may arise from one and the same source, according to the improper or proper guidance of all our faculties.

A slight sketch of the science of Phrenology will form the preface to the work, in order to enable the reader to comprehend more fully the principles laid down.